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MAKING OR BREAKING ORGANIZATIONAL INTERVENTIONS: THE ROLE OF LEADERSHIP

Robert Lundmark

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Making or Breaking Organizational Interventions: The Role of Leadership

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By

Robert Lundmark

Principal Supervisor:
Associate Professor Henna Hasson
Karolinska Institutet
Department of Learning, Informatics, Management and Ethics
Medical Management Centre

Co-supervisor(s):
Professor Ulrica von Thiele Schwarz
Mälardalen University
School of Health, Care and Social Welfare
Karolinska Institutet
Department of Learning, Informatics, Management and Ethics
Medical Management Centre

Associate Professor Susanne Tafvelin
Umeå University
Department of Psychology

Opponent:
Professor Kevin Kelloway
Saint Mary's University
Department of Psychology

Examination Board:
Professor Gerry Larsson
Swedish Defence University
Division of Leadership

Professor Emerita Gunn Johansson
Stockholm University
Department of Psychology

Professor Irene Jensen
Karolinska Institutet
Institute of Environmental Medicine
Division of Intervention and Implementation Research

ABSTRACT

Introduction: In the occupational health literature, organizational interventions have been recommended as an effective way to improve employee health and well-being. However, meta-analyses and literature reviews have shown that they often fail to achieve these intended outcomes. Owing to the organizational role of line managers, their actions have been suggested to be of particular importance to whether or not organizational interventions are implemented successfully. Still, we know relatively little about in what way line managers may facilitate or hinder implementation, and thereby organizational intervention outcomes.

We also know relatively little about what causes line managers to facilitate or hinder organizational interventions, especially with regard to the contextual prerequisites for their behaviours. Increasing our knowledge about line managers' leadership, and the antecedents to their leadership, during implementation of organizational interventions is therefore important in helping organizations to improve employee health and well-being.

Aim: The overall aim of the present thesis was to investigate line managers' leadership behaviours in conjunction with implementation of organizational interventions. More specifically, the aim was to investigate the association between line managers' transformational leadership behaviours and implementation as well as intervention outcomes. An additional aim was to study the association between the contextual antecedents to their leadership behaviours during implementation.

Methods: The present thesis consists of four quantitative studies investigating line managers' leadership in conjunction with implementation of organizational interventions. Three organizational interventions were used as cases for these four studies. In Study I and II, line managers' transformational leadership and change-supportive behaviours were related to an implementation outcome (employee use of a web-based system; Study I), and to distal intervention outcomes (employee self-rated health and work ability; Study II). In both studies, indirect effects of transformational leadership on these outcomes were examined, with line managers' change-supportive behaviours as a mediator. These two studies were based on data from a web-based intervention conducted on both an individual and organizational level. In Study I, multilevel Poisson regression was used to analyse the data. A total of 216 white-collar employees, from 73 work units in 6 organizations, constituted the panel sample. In Study II, structural equation modelling was used to analyse data gathered from one of the organizations. A total of 180 employees constituted the panel sample in Study II.

In Study III, the association between intervention-specific transformational leadership (IsTL) and employee's perceptions of intervention fit (i.e., with context and individual needs) as an outcome of implementation was investigated. Furthermore, direct and indirect relationships between IsTL and intervention outcomes (i.e., change in intrinsic motivation and vigour) were studied. The data in Study III were gathered from an organizational intervention conducted at a process-industry plant, with 90 employees constituting the panel sample. In

Study IV, the association between two contextual antecedents (i.e., span of control and employees' readiness for change) and line managers' IsTL and destructive leadership was examined using multilevel analysis. Data were gathered from another organizational intervention conducted at a process-industry plant, with 172 employees constituting the panel sample of the study.

Results: In Study I and II, indirect relationships between line managers' transformational leadership and studied outcomes were found, when mediated by line managers' change-supportive behaviours. In Study III, IsTL was associated with intervention fit, which in turn was associated with change in intrinsic motivation. IsTL was indirectly related to change in intrinsic motivation when mediated by intervention fit. No relationship between IsTL and change in vigour was found, nor between intervention fit and change in vigour. However, when combining the strength of direct and indirect effects, line managers' IsTL was statistically significantly related to change in vigour. In Study IV, span of control was associated with line managers' IsTL and passive intervention-specific destructive leadership. Employees' readiness for change was associated with line managers' IsTL, and both passive and active intervention-specific destructive leadership.

Conclusions: Taken together, the results of the four studies support previous findings suggesting that line managers' behaviours in conjunction with implementation of organizational interventions are important to both implementation and intervention outcomes. The results also indicate that it is line managers' intervention-specific behaviours that are directly associated with implementation and intervention outcomes, and therefore should be primarily focused on in organizational intervention process evaluations. Furthermore, the results illustrate how including a leadership theory-based evaluation of line managers' behaviours (i.e., focusing on line managers' exercise of social influence on employees) can provide additional information concerning how line managers' facilitate implementation of organizational interventions. In addition, the results emphasize the importance of taking the contextual antecedents to line managers' leadership behaviours into account, as these may help to explain their actions during an organizational intervention. From a practical perspective, in order to facilitate organizational interventions, assessing contextual conditions can help secure the resources needed for line managers to lead interventions effectively. Training and supporting line managers' in exercising an IsTL may also increase the chances of intervention success.

LIST OF SCIENTIFIC PAPERS

I. Frykman, M., Lundmark, R., von Thiele Schwarz, U., Villaume, K., & Hasson, H. (In press) Line managers' influence on employee usage of a web-based system for occupational health management. *International Journal of Workplace Health Management.*

II. Lundmark, R., Hasson, H., von Thiele Schwarz, U., Hasson, D., & Tafvelin, S. (2017). Leading for change: Line managers' influence on the outcomes of an occupational health intervention. *Work & Stress*, 1-21.

III. Lundmark, R., von Thiele Schwarz, U., Hasson, H., Stenling, A., & Tafvelin, S. (2018). Making it fit: Associations of line managers' behaviours with the outcomes of an organizational-level intervention. *Stress and Health*, 34(1), 163-174.

IV. Lundmark, R., Nielsen, K., Hasson, H., von Thiele Schwarz, U., & Tafvelin, S. No leader is an island: Contextual antecedents to line managers' constructive and destructive leadership during an organisational intervention. Submitted manuscript.

CONTENTS

LIST OF ABBREVIATIONS

EBP	Evidence-based practices
FRLM	Full-range leadership model
GLMM	General linear mixed model
IPM	Intervention process measure
IsTL	Intervention-specific transformational leadership
JD-R	Job demands-resources model
LMX	Leader member exchange
SEM	Structural equation model

1 INTRODUCTION

Increasing numbers of people are suffering from diseases caused by work-related stress (EU-OSHA, 2009). Besides the costs in human suffering, there are also vast costs associated with absence from work, reduced performance and increased turn-over for the organizations where these people are employed (EU-OSHA, 2014). At the societal level, increased expenses for health insurance systems and national health care systems, as well as reduction in tax incomes and general economic productivity, negatively affect the gross domestic product (GPD; EU-OSHA, 2014). As a result of the suffering and costs caused by the increase in work-related stress, considerable effort has been put into understanding how work affects employee health and well-being (Goldenhar, LaMontagne, Katz, Heaney, & Landsbergis, 2001; Lamontagne, Keegel, Louie, Ostry, & Landsbergis, 2007). Consequently, occupational health researchers have identified both risk and resource factors, developed theories and models for understanding the causes of occupational stress, and empirically examined the mechanisms involved (Nielsen, Taris, & Cox, 2010). The widely applied job demands-resources model (JD-R; Bakker & Demerouti, 2007), an overarching model that can be applied to various occupational settings, is an example of the work that has been accomplished. In this model, job demands (physical and/or psychological) are related to physical and/or psychological costs (e.g., a high workload). Furthermore, the model highlights resources that refer to aspects of the job that counteract demands and the strain it causes. Resources also play a functional role in achieving goals, personal growth and learning (e.g., role clarity and support from managers) and are thus associated with work motivation and engagement (Bakker & Demerouti, 2007).

Following the discovery of antecedents of ill health and the logic by which employee health and well-being can be predicted, interventions to improve conditions (e.g., reducing demands or/and building up resources) have been a natural consequence (Richardson & Rothstein, 2008). Workplace interventions can be conducted on several levels, focusing on individual employees, work groups and/or the organization (Quick, 1999). Interventions on an organizational level are planned and often theory-based actions that aim at removing or modifying root causes of ill health and poor well-being among employees (e.g., Lamontagne et al., 2007; Nielsen, Taris, et al., 2010; Richardson & Rothstein, 2008). Organizational interventions have been recommended, as they have the potential to target the causes, rather than the effects, of conditions that affect employee health. They are also more likely to be effective over time, compared to interventions conducted only at the individual level (EU-OSHA, 2014; Randall, Griffiths, & Cox, 2005). Although organizational interventions have commendable intentions, thus far their practical outcomes have been less impressive. Meta-analyses and literature reviews of organizational interventions have at best shown mixed results (Bambra, Egan, Thomas, Petticrew, & Whitehead, 2007; Daniels, Gedikli, Watson, Semkina, & Vaughn, 2017; Egan, Bambra, Petticrew, & Whitehead, 2009; Egan et al., 2007; Kompier, Cooper, & Geurts, 2000; Richardson & Rothstein, 2008; Semmer, 2006; van der Klink, Blonk, Schene, & van Dijk, 2001).

Organizational interventions are complex in that they often involve a large number actors at several organizational levels, sometimes with different needs. Furthermore they are conducted, and evaluated, in a natural setting with contextual elements that often change over

the course of the intervention (von Thiele Schwarz, Lundmark, & Hasson, 2016). Hence, one suggested explanation for the absence of positive results of organizational interventions has been the insufficient recognition and lack of consideration given to contextual and process factors and how these influence intervention outcomes (Kompier & Aust, 2016). It has even been argued that, compared to the content of the intervention, these factors are equally important to intervention success (Egan et al., 2009). Therefore, to gain a better understanding of the conditions under which, for whom, and when organizational interventions are effective, it has been suggested that context and process elements should be evaluated and related to intervention outcomes (Cox, Karanika, Griffiths, & Houdmont, 2007).

Accordingly, in recent years a growing number of studies have begun identifying and researching the association between process as well as context variables and organizational intervention outcomes (Biron & Karanika-Murray, 2014; Havermans et al., 2016). Among these variables, the behaviours of line managers (i.e., people with positions at the managerial level directly above employees) have consistently been emphasized as being of great importance (Kompier et al., 2000; Nielsen, 2013; Nytrø, Saksvik, Mikkelsen, Bohle, & Quinlan, 2000). The main reason for the importance attributed to line managers is the organizational key position they possess. Being in between senior management and employees, line managers constitute the communication link with the responsibility to mediate information on decisions as well as to provide feedback on results. They are also often responsible for transforming change decisions made by senior management into actual changes on the employee level, and for managing daily prioritizations concerning what operational tasks to focus on (Nielsen, 2017). Based on these role conditions, line managers are thought to hold a position in which they can either make or break organizational interventions (Nytrø et al., 2000).

The importance of line managers' behaviours for successful implementation of interventions is increasingly being acknowledged, which is also reflected in, for example, policies, regulations and recommendations for managing psychosocial risks (e.g., Lewis, Yarker & Donaldson-Fielder, 2012). However, relatively few studies have prospectively researched the association between line managers' behaviours during implementation of organizational interventions and intervention outcomes (i.e., improved employee health and well-being; Nielsen, 2013). There is also limited knowledge about what kinds of line manager behaviours matter for outcomes, and whether these behaviours can be described and understood in terms of what leadership theory defines as effective forms of leadership (Nielsen, 2013). Helping organizations implement organizational interventions in a way that increases the probability of intervention success is important to improving employees' health and well-being at work. By increasing our knowledge about the mechanisms through which line managers may make or break organizational interventions, and using this knowledge to create favourable conditions for implementation, organizational interventions may stand a better chance of succeeding in future.

2 AIM

2.1 OVERALL AIM OF THE THESIS

The overall aim of the present thesis is to investigate line managers' leadership behaviours in conjunction with the implementation of organizational interventions. More specifically, the aim is to investigate the association between line managers' transformational leadership behaviours and implementation outcomes (Study 1 and III) as well as intervention outcomes (Study II and III). An addition aim is to study the association between the contextual antecedents to their leadership behaviours during implementation (Study IV).

2.2 SPECIFIC AIMS OF THE STUDIES

Study I: To examine the association between line managers' transformational leadership and change-supportive behaviours and employees' initial and sustained use (i.e., frequency of log-ins) of a web-based system for occupational health management.

Study II: To evaluate the association between line managers' transformational leadership and change-supportive behaviours and change in employee self-rated health and work ability.

Study III: To examine whether line managers' intervention-specific transformational leadership (IsTL) is associated with changes in employee intrinsic motivation and vigour (i.e., expected intervention outcomes), directly and through its relationship with employee perceptions of intervention fit.

Study IV: To evaluate the association between two contextual antecedents (i.e., span of control and employees' readiness for change) and line managers' constructive and destructive leadership during implementation of an organizational intervention.

3 BACKGROUND

Line managers' behaviours during implementation of organizational interventions constitute a relatively small area of research if one considers the number of studies conducted so far on the subject. Line managers' behaviours are mentioned in intervention process evaluation frameworks, but only as one of several components. To help explain how line managers' behaviours during organizational interventions may influence intervention outcomes, this research often draws on and relates findings to the overarching field of organizational change. Sometimes, as is the case in the studies of the present thesis, line managers' behaviours are also linked to studies of leadership in organizations. Thus, the small area of research on line managers' behaviours during organizational interventions is interdisciplinary, positioned at the intersection between organizational change, leadership and occupational health research. Below, when describing the theory and findings that lay the ground for the present thesis, both this narrowness and breadth will be reflected on. When possible, literature and studies on the subject of line managers' behaviours (i.e., including both managerial and leadership behaviours) during organizational interventions will be referenced and related to. When this is not possible, theory, literature and studies from organizational change and leadership in general will be used as the point of departure. The relevance (to the four studies in the thesis) of the content included in the different sections below will be pointed out at times for further clarification.

3.1 ORGANIZATIONAL INTERVENTIONS, A SPECIAL CASE OF ORGANIZATIONAL CHANGE

Organizational interventions aiming to improve employee health and well-being have been described as a special case of organizational change (Tvedt & Saksvik, 2012). While organizational change initiatives primarily focus on creating benefits for the organization, organizational interventions primarily aim to benefit employees (Tvedt & Saksvik, 2012). Organizational change initiatives are commonly described in the literature as being initiated from within the organization (i.e. top-down, from owners or senior management to changes in employee behaviours). Organizational interventions, on the other hand, are described as being introduced from the outside (by researchers or consultants), or from the floor level by employee representatives trying to convince senior management that an intervention is needed to improve employee working conditions (Tvedt & Saksvik, 2012). Organizational interventions have sometimes also been compared to other special cases of organizational change, such as implementation of evidence-based practices (EBP) in health care or social service organizations (Eldh et al., 2017). Outcomes of EBP interventions, however, are logically tied to clinical effects in terms of benefits to patients (Eldh et al., 2017). These changes are also commonly initiated by authority recommendations or clinical guidelines on the adoption of new practices (Durlak & DuPre, 2008).

Interventions on an organizational level are sometimes complemented with activities on another level (e.g., individual level) and are, thus, conducted on several levels simultaneously. Organizational interventions are similarly included in the wider definitions of

workplace or occupational health intervention, which incorporates all possible intervention levels (van der Klink et al., 2001). Some authors have chosen to use sub-class definitions of interventions that describe the intervention components (e.g., participatory interventions to improve job design; Daniels et al., 2017). Although the different categorizations are dependent on the content and levels targeted, they are also a matter of what scope studies have for drawing conclusions about results. If the aim is to generate knowledge about the effects of interventions that include a specific component (e.g., job design) and compare them with the effects of other interventions using the same or other components, then sub-class definitions are considered functional (Daniels et al., 2017). If the aim is to study the influence of process or context variables on intervention outcomes across specific contents of an intervention, a broader definition, such as organizational interventions, is often used (e.g., Nielsen, Taris, et al., 2010).

Additionally, workplace interventions are often categorized as being primary, secondary or tertiary (Quick, 1999). Primary interventions focus on preventing disease or injury before it occurs, secondary interventions aim to reduce the impact of a disease or injury that has started to occur, and tertiary interventions are intended to reduce the impact of an on-going illness or injury (Quick, 1999). Organizational interventions commonly have a primary preventive focus and are, thus, often seen as preferable, because they handle potential suffering and costs proactively, and their potential effects are often favourable beyond targeted outcomes (EU-OSHA, 2014).

Although suggested to be different in some respects (as described above), organizational interventions share several commonalities with other organizational change initiatives (Tetrick, Quick, & Gilmore, 2012). For example, organizational interventions, like organizational change initiatives in general, are often planned (e.g., in terms of time, activities, and objectives to be reached), involve several stakeholders with different roles, and are introduced to solve perceived problems related to the way work is organized, managed and/or performed. The aim, directly or indirectly, is to change employees' behaviours in alignment with new or adapted objectives (Tetrick et al., 2012). Sadly, one of the commonalities is also the low success rate. Change projects conducted on an organizational level often tend to fail in achieving their intended objectives (Clegg & Walsh, 2004).

Because organizational changes, including organizational interventions, often are complex in terms of number of components to consider, this is perhaps no surprise. Change activities compete and mix with other events, and change objectives are sometimes challenged by other existing objectives (Higgs & Rowland, 2005). Adding to the complexity, changes are often conducted on multiple levels, sometimes on multiple sites and with different employee groups (Cox, Taris, & Nielsen, 2010; Steckler, Linnan, & Israel, 2002). The complexity means that organizational changes are often difficult to replicate at other workplaces and at other times than those they were designed for (Cox et al., 2007). The fit between the planned changes and the context in which these are conducted is thus a central aspect to consider when implementing organizational changes (Johns, 2006; Nielsen & Randall, 2015).

Consequently, adaptions of intervention plans may have to be made if such a fit does not exist (von Thiele Schwarz et al., 2016). For example, the nature of the job (e.g., shift work) and concurrent changes in the organization (e.g., downsizing) may affect what activities are possible and at what time.

Organizational interventions (as a special case of organizational change) often face additional challenges. When initiated from outside the organization or by employees, there is a risk that activities and objectives will not always be clearly integrated and aligned with those of the organization. In turn, this may lead to organizational interventions facing the risk of being left aside and forgotten after the determined period of implementation has ended (von Thiele Schwarz et al., 2016). Moreover, the experience of (repeated) unsuccessful interventions often causes employees to become less eager to invest effort in future intervention initiatives (Biron & Karanika-Murray, 2014). Consequently, the effectiveness of organizational interventions specifically targeting employee health and well-being has been suggested to be even lower than that of other organizational change initiatives (Halfhill, Huff, Johnson, Ballentine, & Beyerlein, 2002).

3.1.1 Integrated organizational interventions

Although it may be practical from an evaluation perspective to consider organizational interventions to improve employee health and well-being as isolated phenomena, in practice this is seldom possible, and perhaps not desirable. Organizational interventions that integrate a focus on improvements to employee health and well-being with a focus on the primary task often stand a better chance of being successful (Framke & Sørensen, 2015; Greasley & Edwards, 2015). When health and well-being outcomes are logically linked to performance and organizational outcomes, there is a greater chance of intervention activities being seen as non-competitive with other organizational activities. Thus, integrating organizational interventions with system-wide changes and organizational practices increases the chance that employee health and well-being will not be overlooked for performance benefits (Daniels et al., 2017). At the same time, there are likely performance benefits to be gained from including an employee health and well-being focus in changes targeting organizational outcomes (Van De Voorde, Paauwe, & Van Veldhoven, 2012). Organizational interventions that are not integrated run the risk of being managed on the side, with objectives that at best are diffusely related to organizational outcomes (Nielsen, Taris, et al., 2010). Ultimately this may affect the priority given to the intervention and its sustainment (von Thiele Schwarz & Hasson, 2013). In sum, although in some respects a special case of organizational change, in practice it is often beneficial not to view organizational interventions as separated from other organizational practices and change initiatives.

The present thesis uses three interventions as cases to represent different types of organizational interventions reflecting some of the variation in how organizational interventions are initiated and designed. The intervention used as a case for Study I and II was initiated from outside the organization (i.e., by researchers), with the primary focus of improving employee health and well-being. It contained components on both an individual

and an organizational level. The interventions used as a case in Study III and IV were initiated by the top-management of the organizations. The intervention used as a case in Study III focused on changes that were anticipated to lead to improvements in both employee health and well-being and in organizational outcomes. In the intervention used as a case in Study IV, improvements in employee health and well-being outcomes were integrated into system-wide organizational changes. Accordingly, these two cases represent forms of organizational interventions that are integrated with changes targeting outcomes above and beyond employee health and well-being outcomes.

3.1.2 The organizational intervention process

It has been argued that organizational interventions seldom fail because the content offers an ineffective cure for occupational health problems. Instead, failure is often related to how intervention plans are translated into actions (Biron, Gatrell, & Cooper, 2010; Nytrø et al., 2000; Randall et al., 2005). Thus, lack of intervention success is more often caused by implementation failure than by theory failure, highlighting the need to consider implementation separate from the intervention being studied (Dahl-Jørgensen & Saksvik, 2005). To facilitate the design and evaluation of organizational interventions, using models that describe the intervention process, of which implementation is a central part, is recommended (Havermans et al., 2016). The intervention process thus refers to the flow of intervention activities; "*essentially who did what, when, why, and to what effect. In systems thinking, it refers to the things that happen to translate input into output*" (Cox et al., 2007, p. 353). Even though organizational interventions are outlined differently given the context and purpose, using an intervention process model can help clarify these differences by providing a template for comparison. For the purpose of the present thesis, using such a model can also facilitate our understanding of expectancies concerning the what, when and why of line managers' behaviours in conjunction with implementation. For example, consideration of the level and form of employee participation, as well as integration of the intervention into daily operations during initial steps may in turn determine the demands put on line managers as drivers of change during implementation (Karanika-Murray, Biron, & Cooper, 2012; Nielsen, 2013; Nielsen, Randall, Holten, & González, 2010). Below, one such model is described and related to the three interventions used as cases in the thesis.

In their literature review of systematic approaches to conducting organizational interventions, Nielsen, Randall, Holten, et al. (2010) identified five core steps of the organizational intervention process. In the first step, called *preparation*, different stakeholders (e.g., employee representatives, consultants, and management) identify drivers of change, create "buy-in" for change among stakeholders and secure resources for change. The aim at this stage is often to create a readiness and support for change among employees (i.e., perceived benefits and ability to execute the change; Armenakis, Harris, & Mossholder, 1993) and the organization (e.g., prerequisites and opportunities for changes to be implemented; Nielsen, Randall, Holten, et al., 2010). The second step, *screening*, involves conducting risk assessments to get an overview of the current situation and thus areas in need of change to

improve health and well-being. In the third step, *action planning*, prioritizations are made to focus efforts where needed. Activities are developed (typically in workshops), and sometimes pre-intervention activities are conducted (e.g., skills training) to facilitate implementation of planned activities. Thus, these three steps preceding actual implementation, depending on the results of this work, will logically affect implementation through, for example, the level of readiness for change created by the level of involvement of stakeholders.

The fourth step is *implementation* of the planned intervention activities. Central elements of this phase are communication of the process, line managers' commitment and engagement, and communication of the on-going process. In the fifth and final step, *evaluation* of intervention effects and the intervention process, is conducted and ideally used to inform future changes. In all steps, employee participation is considered a central element, and generally recommended (Abildgaard et al., 2018; Egan et al., 2007; Nielsen, Randall, Holten, et al., 2010).

The description of five steps as outline above does not fit all organizational interventions (von Thiele Schwarz et al., 2016). For example, an intervention may be initiated by top management together with health and safety officers on the basis of a yearly screening. Thus, in such cases, screening precedes preparation. Evaluation may be conducted at all steps, not only at the end, and thus be an integrated component of the whole intervention process used to adapt the intervention as it unfolds (von Thiele Schwarz et al., 2016). The level and form of employee participation may also vary to a great extent, from all employees actively participating in preparation, planning, and implementation, to employee representatives being informed about the changes and having limited possibilities to influence the process (Abildgaard et al., 2018).

The three interventions used as cases in the four present studies differed in how the preceding steps up until implementation were outlined, which may produce different conditions for line managers to consider. The intervention process for the intervention used as a case for Study I and II was in essence outlined following the steps of Nielsen, Randall, Holten, et al. (2010). The interventions used as a case in Study III and IV were based on already conducted annual screenings, and thus screening preceded preparation. The intervention used as a case in Study I and II focused on creating a shared process in the work groups leading up to implementation. The two interventions used as cases in Study III and IV had more of a top-down implementation perspective, where senior management and consultants, partly together with employee representatives, designed the implementation.

Consequently, the three interventions used as cases in the present thesis represent organizational interventions with different designs and outlining. Because the association between line managers' behaviours and intervention outcomes has been sparsely studied, researching the relevance of their behaviours across intervention types can help us better understand when, why, and to what effect line managers can make or break organizational interventions (Nielsen, 2013).

3.1.3 The organizational intervention context

All of the four studies use organizational interventions conducted in Sweden. The interventions are thereby introduced in the context of what is often referred to as the common Nordic work organization model (Gustavsen, 2011). In essence, the model advocates co-operation and mutual trust between management and employees on all levels, and is considered a central and shared cultural and legislative component that influences aspects of work organization in these countries (Gustavsen, 2011). The work-life reflected culture in these countries is characterized by a comparative low power differential, "*the extent to which a society accepts the fact that power in institutions are distributed unequally*" (Hofstede, 1980, p.6), and by great emphasis on employee participation (Hofstede, 2011; Tvedt & Saksvik, 2012). In the Nordic setting, employees are expected, and expect, to be involved in decision-making and line managers to facilitate such participatory processes, which is also reflected in the legislation (Hasle & Sørensen, 2013) and in practice when addressing interventions (Irastorza, Milczarek & Cockburn, 2016). Given that the objective is consensus-based decisions, there may be long preparation phases before changes are implemented (Tvedt & Saksvik, 2012). Another expected consequence of this tradition is that line managers may find it difficult to gain acceptance when communicating and implementing change that has been outlined by top management, or that has been introduced from outside the organization, without involvement from employees (Tved & Saksvik, 2012).

On the other hand, when interventions are conducted in accordance with this tradition, a high degree of shared perspectives can be expected, which can be seen as facilitative of successful implementation and sustainment of changes produced by organizational interventions (Hasson, von Thiele Schwarz, Nielsen, & Tafvelin, 2016). In the intervention studies conducted thus far (of which many have been produced in Nordic countries), a great deal of emphasis has naturally been put on line managers facilitating or hindering employees exposure to, and influence during, the implementation (Dahl-Jørgensen & Saksvik, 2005; Nielsen & Randal 2012). In the intervention literature, descriptions of the line manager behaviours required for successful interventions are therefore also closely related to assumptions and findings concerning the positive effects of employee participation (Nielsen & Randal 2012). In other words, line managers should ideally facilitate and engage employees in the change by involving them in shared decision-making, consulting with them, asking them for suggestions, and taking their suggestions into account before making decisions (Kaufman, Stamper, & Tesluk, 2001; Kim, 2002).

Although participatory organizational practices are well rooted in the Nordic cultures, this tradition is sometimes challenged by the influence of international management trends (e.g., new public management; Barry, Berg & Chandler, 2010) with a more top-down view on how to manage organizational changes (Tvedt & Saksvik, 2012). Also, organizations in these countries are among the most internationalized and export dependent in the world (Gustavsen, 2011). Requirements to remain competitive put high demands on organizations to be flexible and quickly adapt new procedures, which may conflict with more traditional consensus-based decision-making (Abildgaard et al., 2018). Organizational interventions may

therefore also increasingly be a result of events and decisions occurring outside the organization (Tvedt & Saksvik, 2012).

Taken together, this may imply that, in reality, there is variation in how and why interventions are initiated, and in the degree to which participation is part of the planning and implementation. This is also evident from comparisons of interventions in Nordic settings (Abildgaard et al., 2018), and also evident in differences between the intervention used as a case in Study I and II, and the interventions used as cases in Study III and IV. The intervention used as a case in Study I and II relied more on line managers and employees jointly crafting changes in their work groups based on screenings. The second intervention (study III) being somewhere in between with both top-down directives and expectancies concerning employee participation in creating solutions, and the third intervention (Study IV) being driven top-down, with mostly representative employee participation in finding overall solutions to perceived problems.

As a result, even if the objectives of change intentions (i.e., improved employee health and well-being) are attractive to employees, the introduction of interventions that take a limited participatory approach may clash with the (Nordic) cultural expectancies (Tvedt & Saksvik, 2012). For the line managers leading implementation of organizational interventions, the process of creating a fit between these expectancies and the outlined intervention can be expected to put extra demands on profound interaction skills (Framke & Sørensen, 2015; Randall & Nielsen, 2012).

3.2 THE KEY ROLE OF LINE MANAGERS

In the organizational intervention literature, as in the organizational change literature in general, line managers have consistently been depicted as playing a key role when it comes to implementing planned change (e.g., Lamontagne et al., 2007, Kompier, Geurts, Grundemann, Vink, & Smulders., 1998; MacKay, Cousins, Kelly, Lee, & McCaig, 2004; Nielsen, 2013). For example, in a review of 13 European intervention projects, Kompier et al. (2000) found that the main strategy for implementation was the designation of line managers as drivers of change. Nielsen (2017) sums up the four most commonly given reasons for the dedicated importance of line managers' support of the intervention during implementation. Line managers' performance of these four decisive role tasks is consequently what has been proposed to influence intervention outcomes to the degree that line managers can either make or break an intervention (Nielsen, 2017). First, line managers constitute the communication link between senior management and employees. They deliver decisions and information from senior management to employees, and feedback reactions from employees back to senior management. Second, line managers are responsible for transforming the decisions made by senior management into concrete actions among employees. Thus, together with the members of their work group, they have to implement the actual changes in relation to how the job is designed, organized and managed. Third, line managers are responsible for the prioritizations made in everyday practices, which often means dealing with several conflicting interests and objectives. Fourth, line managers' position means that they are the

ones approached by employees with different expectations concerning what the changes will bring about. Thus, they have to deal with employees' questions, suggestions, critique and worries regarding the intervention.

Beyond these four managerial tasks, in the Swedish context line managers also have an extensive formal responsibility for employee health and well-being at work, as stipulated by the Swedish Work Environment Act (SFS, 1977/2010), which also adds to their importance in facilitating change to improve employee health and well-being. Their formal responsibility includes controlling and continuously following up employees' working conditions (physical as well as psychosocial), facilitating employee participation in handling these issues, and initiating changes if these conditions are judged to be unhealthy.

Accordingly, beyond being responsible for implementation, the line managers involved in the three interventions studied in the thesis played a central role in identifying stressors that may cause ill-health among employees, and in intervening to improve conditions, within the context of their everyday management work. Especially the intervention used as a case for Study I and II was built upon these premises and designed to facilitate line managers' continuous work with keeping employee health and well-being in focus.

3.2.1 Evaluating line managers' change-supportive behaviours

Traditionally, models of planned organizational change are based upon the view that during change organizations move from one stable state, through the change, to another stable state (Todnem By, 2005). Depending on the level of detail, this change process is usually described in different phases, moving from exploration of possible changes, to a planning stage, to implementation of change, and finally to integration and sustainment of changes (Bullock & Batten, 1985). In these models, organizational change has been a matter of finding solutions to problems that can be analysed and solved in a planned, sequential and straightforward manner (Todnem By, 2005; Higgs & Rowland, 2005). Thus, from this perspective, managing organizational change is seen as a matter of presenting and supporting a set of linear events (Higgs and Rowland, 2005). Consequently, evaluation of the change-supportive behaviours of line managers has focused on their performance of key role tasks related to the planned change process (e.g., Kotter, 2012). Commonly this is operationalized in terms of relatively few and broad areas of behaviour, involving communicating of the need for change, mobilizing others, and evaluating the implementation (Battilana, Gilmartin, Sengul, Pache, & Alexander, 2010; Higgs & Rowland, 2000).

Naturally, the literature on line managers' role during organizational interventions has borrowed models from the broader organizational change field (e.g., Tetrick et al., 2012). Organizational interventions, as described above, are outlined by following similar phases (Nielsen, Randall, Holten, et al., 2010), and line managers' role and supportive behaviours are often described in a similar fashion (e.g., Lamontagne et al., 2007). This view is also reflected in the approach to evaluating line managers' supportive behaviours during implementation of organizational interventions (Nielsen, 2013). Accordingly, in studies

focusing on line managers' influence on intervention outcomes, the performance of a set of managerial behaviours is commonly in focus, for example by studying whether line managers help employees to keep up-to-date with anticipated events (Dahl-Jørgensen & Saksvik, 2005). Randall, Nielsen and Tvedt (2009) developed a scale to measure line managers' attitudes and actions (towards the intervention; sub-scale within the intervention process measure, IPM). In essence, this measure reflects the identified important managerial areas, with questions concerning to what extent line managers have fulfilled their managerial functions (i.e., determined by their key role) by performing change-supportive behaviours (Randall et al., 2009; Nielsen, 2013).

3.2.1.1 The importance of line managers' change-support during organizational interventions

A few empirical studies have explicitly focused on line managers' behaviours during implementation of organizational interventions (Havermans et al., 2016; Nielsen, 2013); the number of such studies is growing. The results of these studies are relatively consistent, showing that, in these cases, line managers' change-supportive behaviours have been important to successful implementation. Consequently, line managers' change-support during intervention has been concluded to influence employees' positive attitudes towards interventions, as well as their behaviours (i.e., in terms of participation; e.g., Coyle-Sharpio, 1999; Framke & Sørensen, 2015; Ipsen, Gish, & Poulsen, 2015; Hasson et al., 2012).

Randall et al. (2009) and Nielsen and Randall (2009) have quantitatively and directly related line managers' change-supportive behaviours during implementation (i.e., using the line manager attitudes and action scale) to intervention outcomes (i.e., employee well-being in two studies of a team implementation intervention). In one of the studies, associations were found between line managers' change-support and intervention outcomes with regard to employee self-efficacy, job satisfaction and well-being (Randal et al., 2009). In the other study, based on data from the same intervention, they also showed that line managers' change-supportive behaviours partially mediated the relationship for changes in working conditions over time. Improved working conditions were, in turn, related to increased job satisfaction and well-being (Nielsen & Randall, 2009). Nielsen and Randall (2011) also found that line managers' readiness for change predicted employees' readiness for change, which in turn influenced intervention outcomes.

In conclusion, with models borrowed from the organizational change literature as a starting point, studies on line managers' behaviours during implementation of organizational interventions have focused mainly on their change-supportive behaviours (Armenakis & Bedeian, 1999; Nielsen, 2013). The results of these studies indicate that the level of line manager support for the intervention plays an important role in understanding variations in outcomes of organizational interventions. However, in previous studies, line managers' change-supportive behaviours during implementation of organizational interventions have been evaluated in retrospect, together with outcomes (e.g., Nielsen & Randall, 2009), limiting possibilities for drawing conclusions on effects. Additionally, these earlier studies have

mainly considered line managers' support of intervention activities (e.g., at what level they have supported the implementation of activities). Thus, they focus less on line managers' relational behaviours towards employees, which may also prove effective in supporting change (Nielsen, 2013).

In Study I and II, the line managers' attitudes and actions scale is used as a measure of their change-supportive behaviours. In both studies, these behaviours are measured during implementation (i.e., using three measurement points). Thus, the results of these studies can be related and compared to findings from previous studies, and provide additional information on the importance of change-supportive behaviours across interventions and settings.

3.2.2 A relational perspective on line managers' change-supportive behaviours

Although it has repeatedly been suggested that the behaviours of line managers can make or break organizational interventions, few have moved beyond a generic description of these behaviours as supportive of the intervention process (Nielsen, 2013). In the organizational change literature in general, the approach of only studying line managers' behaviours from this perspective has been criticized, as it may not capture behaviours that are even more relevant to facilitating desired change (Eisenbach, Watson, & Pillai, 1999). In a series of studies, Higgs and Rowland (2000, 2001, 2005, & 2011) have argued for the relationship between the context and the organizational change approach adopted. In turn, depending on the change approach adopted, they have also reasoned that different kinds of line manager behaviours may be seen as favourable. Others have also argued for this in relation to the low success rate of change initiatives, proposing that change should not only be viewed as a managerial problem to be solved in a sequential manner, but rather as dilemmas in a complex system that managers need to cope with (Lichtenstein, 1996). Thus, if the change is (as traditionally) viewed as a straightforward and controlled process that can be carried through top-down and implemented uniformly, making a case for change and controlling events can perhaps be seen as sufficient managerial behaviours. However, in cases when changes can be characterized as complex and messy rather than as part of a predictable process, other competences may be needed that are more relational and sense-making than persuasive and controlling (Higgs & Rowland, 2005).

Complex change paradigms highlight the importance of line managers working to pull employees towards attractive new possibilities, rather than pushing them away from the current conditions (Eisenbach et al., 1999). Because organizational interventions can often be characterized as complex changes, similar arguments may apply to what is needed for line managers to lead them successfully (Greasly & Edwards, 2011). In other words, line manager behaviours that are directed at building capacity for change both in individuals and in the organization, and that facilitate the process of creating meaning related to the change, may be important. Such line manager behaviours are not only aimed at supporting change activities, but also at creating a social influence process in relation to employees (Yukl, 1989). Thus,

from a complex organizational intervention point of view, line managers' ability to build capacities and frame the change as something attractive can be seen as complementary in importance to what have traditionally been viewed as effective change-supportive behaviours.

Based on a literature review and empirical findings, Higgs and Rowland (2011) depicted two categories of behaviours associated with how managers approached organizational change: shaping and framcap (i.e., a combination of framing and creating capacity behaviours). Shaping behaviours are directive, leader-centric behaviours in which the manager exerts control and tries to persuade others to change. Shaping behaviours are more associated with the traditional approach to organizational changes. With framcap behaviours, managers instead focus attention on what the organization is trying to achieve, challenge the organization and help employees to see unhelpful behavioural patterns, persevere throughout the process, help employees to find meaning and sense in difficult situations, and focus on the present – creating change here and now (Higgs & Rowland, 2011). From this perspective, line managers' behaviours during implementation are ideally facilitating and engaging, with a focus on efforts that promote: "*doing change with people rather than doing change to them.*" (p. 23, Higgs & Rowland, 2011). Additionally, Higgs and Rowland (2005, 2011) found framcap behaviours to be more effective than shaping behaviours as regards change success, regardless of how the change was outlined. Thus, a shift in focus appears when studying line managers' behaviours in terms their social influence on employees, additionally or instead of their performance of change-supportive behaviours. In other words, the way in which line managers interact with, and behave towards, employees in conjunction with organizational interventions may be equally important to study if we wish to understand how they facilitate employees' engagement in making changes happen.

An emphasis on line managers' importance as facilitators who engage employees by co-driving change has also begun to emerge in recent literature focusing on the role of line managers during organizational interventions (e.g., Ipsen et al., 2015; Lewis et al., 2012; Nielsen, 2013). For example, Hasson, Villaume, von Thiele Schwarz, and Palm (2014) conducted a study on line managers' own views concerning their role during implementation of organizational interventions. They found that the importance of engaging employees was also something experienced by line managers in conjunction with implementation. Besides viewing themselves as responsible for managing intervention activities, such as executing action-plans, line managers also stressed that their actions played an important role in employee involvement and motivation. Even though such qualitative relational aspects of line managers' behaviours during organizational interventions have been observed, there is little knowledge on whether and how their behaviours influence intervention outcomes.

One central aim of the present thesis is to introduce a complementary way of evaluating line managers' behaviours in conjunction with implementation of organizational interventions. By adding measures that consider line managers' social influence on employees, how they evoke

employee involvement and engagement in the change, additional aspects of their behaviours' influence on intervention outcomes can be evaluated.

3.3 ADDING LEADERSHIP THEORY TO THE EQUATION

Exercising social influence on others is not necessarily limited to something only formal leaders of an organization can do (Yukl, 2006). However, as described above, it has been suggested that line managers have a particularly strong potential to affect the outcomes of organizational interventions (LaMontagne, Nielsen, 2013). In line with the purpose of the present thesis to study line managers' behaviours in conjunction with implementation of organizational interventions, leadership is viewed here as: *"…a process of social influence that is enacted by designated individuals who hold formal leadership roles in organizations*" (p., 261, Kelloway & Barling, 2010). The general idea of integrating leadership theory into change management studies is not new (Eisenbach et al., 1999). For example, based on the findings described above, Higgs and Rowland (2011) suggested that the effective framcap behaviours of line managers during change overlap considerably with what is described in the leadership literature as active and effective leadership (i.e., transformational leadership; Bass & Riggio, 2006). Neither is the idea of integrating leadership theory completely new to studies on organizational interventions (Nielsen, 2013).

In the organizational intervention literature, it has been argued that employees' active engagement is essential to achieving effects (Biron & Karanika-Murray, 2014). It has also been suggested that line managers should not only manage central intervention activities, but do so in a way that evokes positive emotions among employees (e.g., wanting to co-create and participate in the intervention; Nielsen & Randall, 2013). Using transformational leadership theory has therefore been advocated as a way to help explain how line managers can make employees feel engaged, thereby facilitating implementation (Nielsen, 2013). From an intervention evaluation perspective, assessing line managers' transformational leadership can also help to explain the causes of variation in organizational intervention outcomes (Nielsen, 2013). However, although argued for in conjunction with implementation of organizational interventions, no studies have explicitly explored line managers' behaviours in relation to transformational leadership.

3.3.1 Transformational leadership – change-oriented leadership

Transformational leadership is part of the Full Range Leadership Model (FRLM; Bass & Riggio, 2006); see Table 1. The FRLM categorizes leadership styles in relation to leaders' activity and effectiveness, where transformational leadership is the most active and effective leadership style. Transactional leadership (i.e., management by exception and contingent-reward) occurs when a leader focuses on employee performance and responds with either reward or correction, and is thus thought to be less active and effective than transformational leadership. Finally laissez-faire, avoidance or absence of leadership, with no transactions between leader and employee, is considered the least active and effective leadership-style (Bass & Riggio, 2006).

Transformational leadership is currently the most researched leadership theory (Gardner, Lowe, Moss, Mahoney, & Cogliser, 2010). Meta-analyses and reviews have concluded that transformational leadership is related to employee health and well-being outcomes (e.g., Kuoppala, Lamminpää, Liira, & Vainio, 2008; Harms, Credé, Tynan, Leon, & Jeung, 2017), as well as performance outcomes (Wang, Oh, Courtright, & Colbert, 2011). According to Bass (1985), transformational leadership is in essence change-oriented leadership, and its components are critical not only to employee outcomes, but also to driving organizational change. Transformational leadership consists of four components: idealized influence (II), inspirational motivation (IM), intellectual stimulation (IS) and individualized consideration (IC). It fundamentally involves leader behaviours that generate experiences of engagement, intrinsic motivation, consciousness and enthusiasm for a common vision among employees (Bass & Riggio, 2006). According to Bass (1985), this is achieved when the leaders act like role models and promoters of desirable behaviours (II); formulate an attractive and inspiring vision of the future (IM); encourage followers to be creative and innovative, as well as make their own decisions (IS); and coach them in developing their abilities (IC).

Table 1. *Components of the Full Range Leadership Model (Bass & Riggio, 2006)*

Leadership type	Leadership factor	Description
Transformational	**Idealized influence**	Emphasizes a collective sense of mission and values in a way that inspires trust and confidence, and acts as a role model by behaving consistently in accordance with the mission and values
	Inspirational motivation	Provides a positive vision of the future that generates enthusiasm and engagement among employees
	Intellectual stimulation	Challenges employees' assumptions and beliefs, and encourages new perspectives on how to solve problems or perform tasks
	Individualized consideration	Acknowledges employees' need for growth, and develops followers' skills by acting as a coach or mentor
Transactional	**Contingent reward**	Is clear about expectations, and rewards and recognizes employees for achieving objectives
	Management by exception (active and passive)	Seeks out problems (active), or reacts to problems (passive), in order to correct them
Laissez-faire	**Laissez-faire**	Is avoidant or absent. Ignores responsibilities.

From an organizational intervention perspective, line managers who act in a transformational manner during organizational interventions may facilitate the process by, for example: formulating a positive vision of what the future will look like if the intervention succeeds, helping employees develop achievable goals related to implementation of the intervention, and supporting a common problem-solving practice in which employees are encouraged to share responsibility for developing, implementing and evaluating action plans (Nielsen, 2013). These arguments are very similar to suggestions concerning how the components of transformational leadership may be linked to and facilitate organizational change

management in general (Bommer, Rich, & Rubin., 2005; Eisenbach et al., 1999). Both Eisenbach et al. (1999) and Bommer et al. (2005) have also emphasized provision of support, coaching and guidance to help employees in overcoming challenges associated with the change. According to Eisenbach et al. (1999), coaching employees can also be seen as an important aspect of overcoming potential resistance within the change process. Additionally, Eisenbach et al. (1999) and Bommer et al. (2005) have suggested that, throughout the change process, managers must model the 'new' behaviours required for change to occur, in other words, they must set an example for employees to follow.

In all of the four studies in the present thesis, a measure of transformational leadership is included to evaluate line managers' social influence on employees, which has been suggested to facilitate employee involvement and active engagement in co-driving change. Line managers' behaviours during implementation of organizational interventions are thus operationalized in terms of employee perceptions of transformational leadership. In Study I and II, this is done together with line managers' change-supportive behaviours (i.e., using the attitudes and action scale, as mentioned above), in Study III exclusively, and in Study IV, together with other leadership dimensions intended to capture the ineffective, invisible and dark side of line managers' behaviours.

3.3.1.1 Effects of transformational leadership during organizational change

Given the recurrently suggested importance of transformational leadership in times of organizational change, there is not much research to support this claim (Herold, Fedor, Caldwell, & Liu, 2008; Bass & Riggio, 2006). However a couple of studies on the subject exist, mainly focusing on how a transformational leadership style may affect employee attitudes or behaviours during organizational change initiatives (e.g., Aarons & Sommerfeld, 2012; Bommer et al., 2005; Carter, Armenakis, Feild, & Mossholder, 2013; Michaelis, Stegmaier, & Sonntag, 2010). In a cross-sectional study, Carter et al. (2013) investigated whether change reactions (i.e., quality of relationships between leaders and employees) mediated the influence of transformational leadership on change outcomes (i.e., employee task performance and organizational citizen behaviours, OCB). Based on their results, they concluded that transformational leadership played a role, but that it is also important for leaders to engage in high-quality relationships with employees to facilitate organizational change. Another cross-sectional study by Michaelis et al. (2010) found that transformational leadership was closely related to followers' innovation implementation behaviour. This relationship was moderated by employees' perceived climate for initiative, and the relationship between transformational leadership and employees' innovation implementation behaviour was mediated by employees' commitment to change. In a prospective study, Bommer et al. (2005) found that transformational leadership was negatively associated with employees' cynicism about organizational change. Aarons and Sommerfeld (2012) conducted a cross-sectional study on the association between transformational leadership and attitudes towards adopting EBP, as mediated by innovation climate and leader member exchange (LMX; i.e., the bi-directional reciprocal relationship between a leader and follower that can

enhance buy-in and willingness to perform well on the job; Schriesheim, Castro, & Cogliser, 1999). In the study, they compared two groups: those implementing EBP and those doing business as usual. They found that transformational leadership was directly associated with higher innovation climate for the group implementing EBP, whereas LMX was associated with higher innovation climate for the business-as-usual group. Additionally, innovation climate was associated with more positive attitudes towards EBP in the group implementing EBP. The results implied that, for implementation of EBP, transformational leadership may enhance employees' positive attitudes towards making changes.

3.3.2 The relationship between line managers' leadership and change management

One comparative study related transformational leadership and managerial behaviours in general to each other (Tracey & Hinkin, 1998), showing a considerable amount of overlap between the two constructs, but with transformational leadership explaining more in relation to employees' appraisals of their managers' effectiveness. These results could perhaps be considered expected, as both concern managers' behaviours in relation to employees, but with transformational leadership adding qualitative relational aspects that extend beyond the mere exchange of information (i.e., by focusing on employee empowerment; Bass & Riggio, 2006).

In a cross-sectional study, Herold et al. (2008) compared how line managers' transformational leadership (on a group level) and change-specific behaviours (on a group level) influenced employee change commitment (on an individual level). They found that transformational leadership was positively related to employees' change commitment, whereas change-specific behaviours were not related to change commitment. Instead, these behaviours were found to be a function of the level of transformational leadership and the amount of impact the change had on the employee's own job. In other words, when change had little impact on the job, change-specific behaviours moderated the effects of transformational leadership on change commitment. Battilana et al. (2010), on the other hand, studied the relationship between leadership (i.e., in terms of task-oriented and person-oriented leadership) and three components of change-specific managerial behaviours. In their prospective study, the two types of leadership behaviours were both shown to influence the three types of change-specific managerial behaviours, although somewhat differently. Additionally, Nohe, Michaelis, Menges, Zhang, and Sonntag (2013), in a cross-sectional study, investigated how managers' change-specific behaviours (on a group level) influenced team performance (on a group level), mediated by managers' charismatic leadership and employees' commitment to change (both on an individual level). Based on the results, they concluded that line managers are perceived to be acting more charismatically when they engage in change-promoting behaviours. In turn, charismatic leadership facilitated commitment to change, which influences team performance.

In summary, a few studies have explored line managers' leadership in conjunction with different forms of organizational change, and even fewer the relationship between a

constructive form of leadership and change-specific managerial behaviours. Most of these studies are cross-sectional, with outcome measures such as employees' self-reported attitudes towards or behaviours concerning the change. Consequently, there is a lack of studies with prospective or longitudinal designs, and with measures such as actual change in behaviours and in employee, and organizational, outcomes. In other words, there is a need for studies that can give further support to the suggested direction of effects as well as link line managers' leadership to the actual expected outcomes of the change. The studies (above) that have investigated this relationship have had different approaches and designs, with leadership's influence on outcomes mediated by change-specific behaviours, leadership influencing change-specific behaviours, and change-specific behaviours influencing outcomes with leadership as a mediator. Thus, although both constructive forms of leadership and change-specific managerial behaviours appear to play a role in organizational change initiatives, the nature of these relationships would seem to be unclear.

In relation to implementation of organizational interventions targeting employee health and well-being specifically, no studies have quantitatively related theory-based leadership to implementation or intervention outcomes. A couple of studies, however, have (as mentioned above) used a line managers' attitudes and actions scale (within IPM; Randall, et al., 2009) to relate line managers' behaviours to outcomes. Although sharing some similarities with items included in leadership questionnaires (i.e., in both cases measuring managers' behaviours), IPM, which is based on the organizational change management literature, mainly aims at capturing aspects of change-specific managerial behaviours – in support of organizational interventions (Randall et al., 2009).

In Study I and II of the present thesis, change-supportive behaviours (i.e., using the attitudes and actions scale in IPM) and transformational leadership behaviours are related to each other as well as to implementation (Study I) and intervention (Study II) outcomes. In both Study I and II, the relationship is modelled using mediation, with the change-supportive behaviours mediating the influence of transformational leadership on outcomes, thus drawing mainly on the suggested relationship outlined in Battilana et al.´s (2010) study, mentioned above.

3.3.3 General vs. domain-specific leadership

Transformational leadership, and other forms of constructive leadership, are part of general leadership models in the sense that they involve a wide range of behaviours that are expected to be related to a broad range of outcomes. Domain-specific leadership studies, on the other hand, focus on leadership behaviours in a specific managerial domain such as health or safety, or as in the present case organizational interventions, and their relationship to outcomes in that specific domain (Gurt, Schwennen, & Elke, 2011). The conceptualization and study of domain-specific leadership instead of, or in combination with, general leadership measures is not a new phenomenon in the occupational health field (e.g., Gurt et al., 2011; Barling, Loughlin, & Kelloway, 2002). It has likewise been suggested to be important to implementation of EBP, which also focuses on a form of organizational change (Aarons, Ehrhart, & Farahnak, 2014).

The main reason given for the importance of measuring leadership as domain-specific is the risk that the investigated leadership behaviours may be directed elsewhere (Kelloway, Mullen, & Francis, 2006; Lewis et al., 2012). Thus, a certain managerial domains (e.g., implementing an organizational intervention) with specific objectives may be unattended to or given low priority in everyday management (Kelloway et al., 2006), especially if the overall objectives (e.g., production targets) are perceived as being accessible without attending to these specific objectives. For example, a line manager may be thought to be a generally good leader, but choose, or be forced by circumstances, to prioritize perceived competing objectives, such as increasing the number of products delivered, rather than implementing an organizational intervention. As has been suggested for implementation of EBP (Aarons et al., 2014), one alternative to studying general leadership in relation to change-supportive behaviours (i.e., using mediation or moderation) could be to study intervention-specific leadership.

In Study III and IV of the present thesis, measures of intervention-specific leadership are used to evaluate variations in line managers' leadership behaviours, thus capturing their social influential behaviours in relation to employees within the focus of implementing organizational interventions.

3.3.4 Line managers breaking organizational interventions

Besides having a positive influence on organizational intervention outcomes, results from a few studies also indicate that line managers' lack of support of the intervention, or hindering of activities related to its implementation, may predict negative outcomes (Nielsen, 2013; 2017). Line managers have been found to withdraw from implementing the intervention (Mellor et al., 2011; Biron et al., 2010). They have been found to resist change by withholding information (i.e. not communicating change), thus preventing employees from being exposed to the intervention (Randall et al., 2005). They have also been found to restrict employees' time for participating in intervention activities (Dahl-Jørgensen, &. Saksvik, 2005), thus, hindering the intended mechanisms (such as agreeing on new procedures) of the intervention from being implemented, and thereby negatively affecting outcomes. Similarly, in their study of four organizational interventions, Ipsen et al. (2015) concluded that, in some work groups, line managers avoided or gave low priority to the intervention by not following up on the initiated changes.

Thus far, the organizational intervention literature has mainly dealt with how line managers break interventions by failing to display change-supportive behaviours, thus leading to absence of positive outcomes (Nielsen, 2017). However, observations of line managers' behaviours during interventions, such as those presented above, indicate that besides refraining from appropriate behaviours, they may also actively obstruct implementation. Thus, as concluded by Higgs and Rowland (2011), in addition to transformational change leadership, ineffective, invisible and "dark side" change leadership behaviours may be at play during organizational interventions.

3.3.4.1 Intervention-specific destructive leadership

Neves and Schyns (2018) suggest that studying destructive leadership in the context of organizational change may be of particular importance. The context of change leads to increased complexity, uncertainty, and risk of failure, inducing more stress and potential for enactment of destructive behaviours (Neves & Schyns, 2018). Most authors looking at destructive leadership seem to agree that volitional behaviours, on the part of managers, that can cause harm to both the organization (e.g., by undermining goals, tasks and effectiveness) and employees (e.g., by negatively affecting motivation, well-being or job-satisfaction) are to be considered destructive leadership (Einarsen, Aasland, & Skogstad, 2007; Krasikova, Green, & LeBreton, 2013). Although different in appearance, passive leadership behaviours (i.e., a laissez-faire leadership, avoidance or absence of leadership) can also be considered a form of destructive leadership (Kelloway, Sivanathan, Francis, & Barling, 2005; Skogstad et al., 2007). As with active destructive leadership, these passive leadership behaviours may also undermine organizational objectives and employee motivation, and should therefore also be considered destructive (Einarsen et al., 2007; Skogstad et al., 2014).

Given the concluded presence of destructive leadership and the negative influence of destructive leadership behaviours on organizational change outcomes (for an overview of studies, see Neves & Schyns, 2018), they may be present during organizational interventions as well. The relationship between such behaviours and employee health and well-being outcomes, as well as performance outcomes (Schyns & Schilling, 2013), could also be seen as strengthening the assumption that destructive leadership also plays a role for organizational intervention outcomes.

Study IV of the present thesis, in addition to measuring intervention-specific transformational leadership, also measures both passive and active destructive intervention-specific leadership. This enables the occurrence of these behaviours to be detected, giving an indication of whether the presence of such breaking behaviours is at play in the context of organizational interventions.

3.3.5 Contextual antecedents to line managers' intervention-specific leadership

To get a better understanding of what conditions are needed for line managers to engage in making organizational interventions successful, researching the antecedents to their leadership behaviours is essential (Nielsen, 2017). During organizational interventions, the context (i.e., opportunities and constraints that affect the occurrence and meaning of organizational members' behaviours; Johns, 2006) could be considered to provide both enabling and hindering prerequisites. Thus, for organizational changes to occur, there needs to be an enabling context that provides opportunities and support for the adoption of new behaviours (Johns, 2006; Oc, 2018). Consequently, as Nytrø et al. (2000) pointed out, without understanding how contextual factors influence both line managers' and employees' behaviours, the impact of an intervention risks being minimal or even negative. Recently, Nielsen (2017) offered suggestions concerning some antecedents that may influence line

managers' behaviours during organizational interventions. Besides line managers' personal resources and attitudes towards change, she stresses the importance of studying the influence of context on line managers' behaviours to get a better understanding of why line managers may make or break organizational interventions.

Each organization has its specific setting and history, and the context in which the organizational intervention takes place needs to be understood (Arapovic-Johansson et al., 2018; Greasley & Edwards, 2015; Johns, 2018). For example, the supportive behaviours of line managers during interventions have been suggested to depend on the level of support they received from both senior management and employees (Hasson et al., 2014; Nielsen, Randall, & Christensen, 2015). On-going parallel structural changes (e.g., downsizing, Nielsen, Randall & Christensen, 2010; or increased employee utilization, Greasly & Edwards, 2015) have also been found to affect line managers' behaviours during interventions. Biron et al. (2010), in a study on implementation of a tool for psycho-social risk assessment, found that some line managers did not use the tool as was intended when they lacked resources (e.g., good relationships at work). In turn, this prevented employees from being exposed to the tool. In another study, Nielsen, Randall and Christensen (2010) evaluated the influence of training line managers as a pre-intervention activity. The results showed that even when line managers had positive attitudes towards the training, intended outcomes in terms of employees' job involvement and job satisfaction mainly remained unchanged from the pre-intervention period. In an evaluation of pre-intervention training of line managers in conjunction with implementation of an organizational intervention, openness to change among employees was found to affect possibilities for line managers to enact desired behaviours (Nielsen & Daniels, 2012). In sum, these findings indicate that, during organizational interventions, aspects of the organizational context may influence line managers' supportive or undermining actions (i.e., their engagement in constructive or destructive leadership behaviours; Skogstad et al., 2014).

In a recently presented integrative framework for contextual leadership based on Johns' (2006) categorization of contextual factors, Oc (2018) suggests that discrete contextual factors (i.e., situational variables within the organization) should be studied directly in relation to line managers' leadership. Johns' (2006) categories are also included in frameworks for process evaluation of organizational interventions as a suggested factor that will influence both managers' and employees' behaviours during organizational interventions (e.g., Nielsen & Abildgaard, 2013).

The relationship between two such suggested discrete contextual variables – span of control (e.g., Rubin, Munz, & Bommer, 2005) and employee readiness for change (e.g. Bouckenooghe, 2010) – and line managers' leadership during an organizational intervention is the focus of Study IV in the present thesis. Studying these contextual antecedents was deemed important because they may be extra sensitive during organization interventions. Given that change may increase the need for proximity to employees so as to increase interaction frequency, the number of employees to interact with may affect such

opportunities. Similarly, employees' attitudes towards the change may affect line managers' perceived possibilities to promote change.

4 OVERVIEW OF THE STUDIES

In summary, the present thesis includes four studies based on three intervention projects. All studies focus on line managers' leadership in conjunction with implementation of the interventions. The first three studies investigate the association between line managers' leadership and intervention process outcomes and/or intervention outcomes. The fourth study examines the influence of contextual antecedents on line managers' leadership. An overview of the four studies is presented in Figure 1.

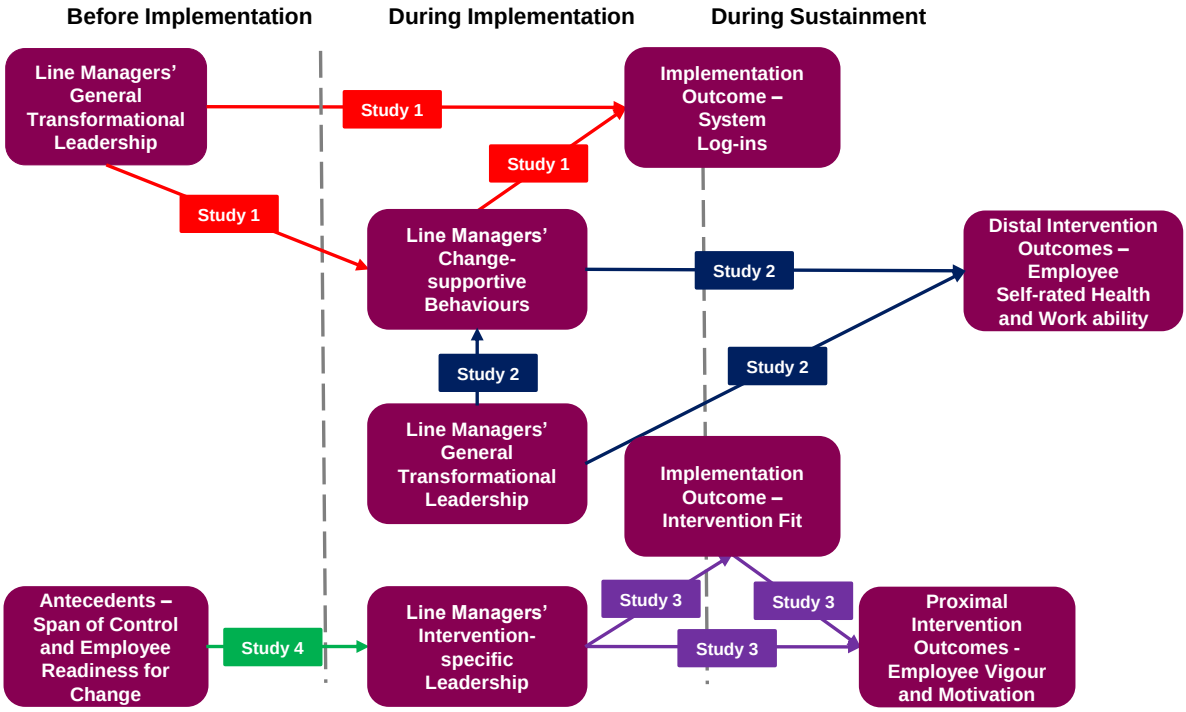

Figure 1. Overview of the studied parameters in the thesis

Although the three interventions differed in terms of content, scope and objectives, they all included an aim to realize improvements in employee health and well-being. In Study I and II, a web-based intervention is used as a case. In these two studies, line managers' general transformational leadership and change-supportive behaviours are related to employees' log-ins to the web-based system (Study I), and to change in employees' self-rated health and work ability (Study II). The third and fourth study use two different organizational interventions taking place in process industry plants as cases. Study III examines the association between line managers' intervention-specific transformational leadership (IsTL) and employees' perceptions of intervention fit, and change in employee vigour and intrinsic motivation. In Study IV, the focus is on investigating the prospective relationship between two contextual antecedents, span of control and employee readiness for change, and line managers' intervention-specific transformational and destructive leadership. As the primary focus of the present thesis is on investigating line managers' leadership in conjunction with implementation, none of the studies evaluates the general effectiveness of the interventions.

5 METHODS

A methods overview of the four studies is presented below in Table 2.

Table 2. *Overview of the designs, interventions, participants, interventions, variables and statistical analysis used in the four studies*

	Study 1	**Study 2**	**Study 3**	**Study 4**
Study Design	Prospective (survey data from two time points and weekly system data)	Prospective (three time points)	Prospective (two time points)	Prospective (two time points)
Intervention	Multi-level intervention, including the implementation of a web-based system for occupational health management	Multi-level intervention, including the implementation of a web-based system for occupational health management	Organizational intervention targeting employee health and well-being, as well as the profitability of the organization	Organizational intervention targeting employee health and well-being, as well as the profitability of the organization
Study participants	White-collar employees *N* = 216 in panel sample	White-collar employees *N* = 180 in panel sample	Process industry employees *N* = 90 in panel sample	Process industry employees *N* = 172 in panel sample
Instrument	***Line managers' transformational leadership*** Composite measure based on Developmental Leadership Questionnaire (DLQ; Larsson et al., 2006) ***Line managers' attitudes and actions*** Composite measure of the line managers' attitudes and action scale in the Intervention Process Measure (IPM; Randall et al., 2009) ***Weekly frequency of system logins*** Number of weekly logins to the web-based system derived from the system log	***Line managers' transformational leadership*** Composite measure based on Developmental Leadership Questionnaire (DLQ; Larsson et al., 2006) ***Line managers' attitudes and actions*** Composite measure of the line managers' attitudes and action scale in the Intervention Process Measure (IPM; Randall et al., 2009) ***Self-rated health*** Single item (De salvo et al., 2005) ***Work ability*** Single item from the Work Ability Index (WAI; Ilmarinen, 2009)	***Line managers' intervention-specific transformational leadership*** (IsTL) Adapted items from the Safety-specific transformational leadership questionnaire (Barling et al., 2002) ***Intervention fit*** 3-item scale corresponding to the concept of intervention fit as an implementation outcome (Proctor et al., 2010; von Thiele Schwarz et al., 2016) ***Vigour*** Sub-scale from the short-version of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006) ***Intrinsic motivation*** Sub-scale from the Multidimensional Work Motivation Scale (MWMS; Gagnè et al., 2015)	***Line managers' constructive leadership*** Four items taken from the IsTL-scale (Barilng et al., 2002) ***Line managers' passive destructive leadership*** Adapted items from the laissez-faire sub-scale of the Multifactor Leadership Questionnaire (MLQ; Avolio & Bass, 2004) ***Line managers' active destructive leadership*** Adapted questions from the Arrogant/Unfair and Ego-oriented/False subscales in the Destrudo-L questionnaire (Larsson et al., 2012) ***Span of Control*** Number of employees organized under a line manager in the organizational diagram ***Employee readiness for change*** Sub-scale from the Intervention Process Measure (IPM; Randall et al., 2009)
Statistical analyses	Multilevel Poisson-regression using SAS	Structural Equational Modelling using AMOS	Structural Equational Modelling using Mplus	Multilevel Modelling using Mplus

Additionally, at the end of the method section, ethical considerations are presented. In a deliberate effort not to repeat too much of the information already featured within the four studies, the present section puts more emphasis on giving an overall and cohesive picture of the methods.

5.1 STUDY DESIGN

The design of the studies in the present thesis is based on suggestions made in intervention process evaluation frameworks and models concerning how process and context factors are related to outcomes (e.g., Fridrich, Jenny, & Bauer, 2015; Nielsen & Abildgaard, 2013; von Thiele Schwarz et al., 2016). Study I-III of the present thesis all use a design in which variations in line managers' leadership behaviours in conjunction with implementation of interventions are related to variations in various employee outcomes. Study IV uses as similar design, but relates contextual antecedents prior to implementation to line managers' leadership during implementation.

5.1.1 The study design from a process evaluation perspective

There are two main reasons for the suggested use of process evaluation in intervention studies. The first reason is to ensure that all components have been implemented so that incorrect conclusions are not drawn about the effectiveness of the intervention (i.e., type III error; Basch, Sliepcevich, Gold, Duncan, & Kolbe, 1985). The second reason is to understand which process and context factors are important to consider for achieving expected intervention outcomes (Cox et al., 2007; Kristensen, 2005; Kompier & Aust, 2016). Organizational interventions involve multiple components (e.g., several different activities), multiple stakeholders at different organizational levels, multiple locations, and multiple outcomes (e.g., health and productivity). The complexity of these interventions, especially when planned and managed by the organizations themselves, makes potential influential variables difficult to control. Therefore, evaluating an organizational intervention by only comparing employee health pre- and post-intervention may be insufficient for determining the success or failure of the intervention. Even if such effects were detected, we would know little about the mechanisms underlying the change (Nielsen, Taris, et al., 2010). In other words, by evaluating the elements of the process and context, and linking them with outcomes, we can achieve a better understanding of whether the intervention was effective (Semmer, 2011). Thus, besides facilitating our understanding of the success or failure of interventions, process evaluation studies provide information useful in the planning and implementation of future interventions (Nielsen & Abildgaard, 2013; Steckler et al., 2002).

The four studies in the thesis, based on data gathered in conjunction with three interventions (i.e., using a quasi-experimental evaluation design), could be seen as examples of studies intended to generate such knowledge. More specifically, the present studies investigate how one process variable (i.e., line managers' leadership) may influence outcomes, and how context variables may be related to this process variable.

5.1.2 The study design and outcomes from a chain-of-effects perspective

An intervention usually follows certain steps (e.g., initiation, screening, action planning, implementation, and evaluation; Nielsen, Randall, Holten, et al. 2010), and it is therefore of interest to study different factors at different times (Nielsen & Abildgaard, 2010). Given that this makes the timing of measurement points and consideration of time lags important, evaluation designs can easily become messy (von Thiele Schwarz et al., 2016). To complicate things further, it has been suggested that some process variables can also be seen as outcomes (e.g., communication about the intervention as a process variable, and improved communication as an implementation outcome; Havermans, 2016). In most evaluation frameworks for organizational interventions, outcomes follow a logical chain of effects (Friedrich et al., 2015; Nielsen & Abildgaard, 2013; von Thiele Schwarz et al., 2016). Chain of effects implies that at different stages and time points, different effects will be apparent during and following implementation of the organizational intervention (Friedrich). Thus, distal intervention outcomes build logically upon proximal intervention outcomes, which in turn build upon outcomes of implementation outcomes (for a compilation of such outcomes see, e.g., von Thiele Schwarz et al., 2016). Additionally, using a chain of linked outcomes may be extra important when the end outcomes are multifactorial and distal, as with the health and well-being outcomes of an organizational intervention (Kristensen, 2005). Although they are important to evaluate, changes in employee health and well-being may not be detectable at any significant level until long after the intervention has ended (Semmer, 2011).

The designs of the studies (see also Figure 1) in the present thesis all acknowledge, although in different ways, the chain of effect perspective. Across the four studies, line managers' leadership is related to implementation outcomes, as well as to both proximal and distal intervention outcomes.

Study I evaluates the association between line managers' leadership behaviours and log-in records from the web-based system (i.e., as a measure of employees use of the system) as an implementation outcome. Employee use of the implemented system was a core component because it was vital for the intervention to achieve its intended effects.

Study II evaluates the association between line managers' leadership behaviours and distal intervention outcomes in the form of change in self-rated health and work ability (i.e., change between baseline and follow-up during sustainment of the intervention). As the main focus of the intervention was on improving employee health, these were considered relevant variables to be changed as a result of the action taken.

Study III evaluates the association between line managers' leaderships and both intervention fit as an implementation outcome, and employees' work-related intrinsic motivation and vigour as intermediate intervention outcomes. The concept of intervention fit relates to constraints and opportunities in the organizational context that influence the perceived appropriateness as well as the perceived personal benefits of the intervention (Nielsen &

Randall, 2015). Randall and Nielsen (2012) suggested that intervention fit affects how an intervention unfolds and, ultimately, its outcomes. Intervention fit has been put forward as an indicator of the success of the planning and early implementation of organizational interventions (von Thiele Schwarz et al., 2016). One qualitative study found that line managers facilitated adaptation of intervention plans to local conditions and consequently improved employees' perceptions of intervention fit (Framke & Sørensen, 2015). Intrinsic motivation refers to our innate tendency to seek out challenges and to extend and exercise our capabilities (Deci & Ryan, 2000). Vigour refers to the experience of high levels of energy and mental resilience leading to a willingness to invest effort and to persist in trying to solve work-related problems (Bakker, Schaufeli, Leiter, & Taris, 2008). Both these variables have, in turn, been linked to employee health (Ng et al., 2012; Schaufeli, Bakker, & Salanova, 2006).

Additionally, mediation models are used with both line managers' change-supportive behaviours (Study I and II) and intervention fit (Study III) as mediators of the effect of line managers' transformational leadership behaviours on implementation (Study I) and intervention outcomes (Study II and III). In all of the studies, the timing of data collection is considered so as to match the supposed steps of the intervention process.

5.1.3 Prospective studies and the use of objective measures

Over recent decades, the number of process evaluation studies has grown rapidly (Havermans et al., 2016), and evaluation models and frameworks have been developed to guide researchers in what variables to study and when (e.g., Nielsen & Randall, 2013). However, evaluation models or frameworks are seldom used to guide evaluations, and there is still great heterogeneity in the use of process variables, which makes cross-study comparisons difficult (Havermans et al., 2016). In most studies, as described in the background section, process data have been collected retrospectively and in conjunction with outcome data, and employee process and outcome data only retrieved from one source (i.e., employees; Havermans et al., 2016; Nielsen & Randall, 2013), thus only allowing for cross-sectional study designs. Additionally, for practical reasons, data are often collected at the end of implementation of intervention activities, at which point such changes in health and well-being are not always plausible (Semmer, 2011).

As outlined above, the studies included in the present thesis use prospective designs with two or three measurement points, thus avoiding recall bias and providing more information on the possible direction of relationships (Hassan, 2006). One partial exception is Study III, in which process data are collected retrospectively. Two of the studies also elaborate on ways of evaluating variables using measures other than employee survey data (i.e., system log-ins in Study I, and organizational diagram data to measure span of control in Study IV) as a way of reducing common-method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) and making data collection easier. Given that only a few previous quantitative studies have had a similar focus on line managers' behaviours during implementation (i.e., Randall et al., 2009; Nielsen & Randall, 2009), the studies in the present thesis also complement and broaden the basis for

drawing conclusions concerning the importance of line managers in implementing organizational interventions.

5.1.4 Data collection procedures

The data consist of employee responses to surveys distributed pre-implementation, during on-going implementation of the intervention, and/or during a period when sustainment of changes was predicted to occur. The data used for Study I and II were taken from an already completed intervention (Hasson & Villaume, 2013), and thus the design of these two studies was outlined in retrospect. The data used for Study I and II were retrieved from the web-based system. The web-based system, and data collection using the system, was managed by researchers. Given how the intervention was designed, organizations and workgroups within the organizations were recruited continuously, and were able to influence when in time they would respond to follow-up surveys during implementation. The interventions used as cases for Study III and IV were planned and outlined by the organizations together with consultants, and data collection was performed by consultants in collaboration with researchers, who helped with the content of the surveys as well as with data interpretation.

In Study I, employee ratings of line managers' transformational leadership were collected at baseline (i.e., pre-implementation). Data retrieval of employee reports on line managers' change-supportive behaviours (i.e., the attitudes and actions scale) was restricted to the estimated time of the actual implementation phase (week 16-52 after start-up). Log-ins to the system were measured by extracting electronic records from the system. Two outcome intervals were used: Interval 1 consisted of log-ins from week 16-52 (implementation phase) and Interval 2 included week 53-144 (week 144 ending data collection, sustainment phase). As a control variable, holidays were used to adjust for yearly calendar vacation weeks (e.g., Christmas holiday). Log-ins – the result of employees' actual behaviours and fundamental to the intervention having an effect – were hence viewed as an implementation outcome.

In Study II, three measurement points/intervals were used. As in Study I, intervals for process and follow-up measures were used, here not only to take into account when in time behaviours could be expected, but also when in time change in health could be expected. These intervals were more restrictive than in Study I (i.e., measures of line managers' transformational leadership, attitudes and actions: 2-5 months after baseline, and outcomes: 10-13 months after baseline), the goal being to reduce the potential risk of common method bias (Podsakoff et al., 2003).

In Study III, data collection was conducted at two time points: at baseline and at follow-up six months after baseline. In the first round, data collection was conducted using a paper questionnaire, and in the second round using a web-based survey.

In Study IV, data on contextual variables were collected at baseline and employee ratings on line managers' leadership were collected during implementation (approximately 14 months after baseline). Data were collected using web-based questionnaires, and additionally using organizational diagram data obtained from the organization's HR department register.

5.2 THE INTERVENTIONS

In the three interventions used as cases, the organizations themselves (or in collaboration with consultants, as in the interventions used for Study III and IV) managed the different intervention steps.

The intervention used as a case for the first two studies in the thesis (Study I and II) consisted of implementing a web-based system for occupational health management in Swedish white-collar organizations (for a full description of the intervention, see Hasson & Villaume, 2013). The intervention as a concept was initiated from outside the organizations, by researchers. However, the participating organizations volunteered to implement and use the system on the basis of a perceived need to improve employee health and well-being. The web-based system included components for intervention on both an individual level and an organizational level. On the individual level, the system provided employees with suggestions and support for improving health and well-being based on individual answers to system surveys. On the organizational level, group and department aggregated results of the surveys provided managers with data on the health and well-being status of their workgroups/departments. Line managers received suggestions and support from the system on how to manage improving work conditions effectively together with their employees, in accordance with how the Swedish Work Environment Act (SFS, 1977/2010) stipulates this process. In other words, they received suggestions on how to create a participatory process for making changes to work environment factors based on a collective analysis of survey results. This meant that how line managers acted upon these suggestions – for example, to what degree they encouraged employees to use the system, involved employees in identifying conditions that could be changed to improve health and well-being, prioritized, supported and followed up on such change-efforts – would likely vary. Variations in line managers' behaviours during implementation could therefore be assumed to affect outcomes of both implementation and the intervention as a whole.

The two interventions used as cases for Study III and IV were conducted at process industry plants in Sweden. Both of these organizational interventions were outlined by the top management in collaboration with organizational consultants on the basis of results from periodical assessments (i.e., annual screenings) of operational risks. The assessments started from the organizational outcomes of the organizations but also related employee performance factors to health and well-being. Hence, in both organizations, improvement in employee health and well-being was determined to be an important part of the strategy to improve business results. Consequently, occupational health intervention components were integrated into the organizations' aims of becoming more efficient, and employee well-being and health outcomes were related (in the design of the change initiatives) to organizational outcomes.

The intervention in Study III consisted of outlined participatory workshops in which employees and managers offered suggestions for dealing with perceived hindrances in work organization and performance. These suggested actions were then aggregated and discussed in workgroups, and action plans were created. Managers received a workshop in which the

importance of their support of the change was targeted, the aim being to increase their commitment to change. Together with the employees, managers were also engaged in a second follow-up workshop (6 months after the first). In the workshop, implementation of plans was discussed and collective guidelines (drawn from common themes in action plans) were produced, the idea being to use these as a guide for the continuous work towards reaching organizational objectives.

In Study IV, the intervention focused on mobilizing line managers and employees to participate in crafting new ways of performing job tasks in relation to structural changes that included implementation of new management groups, job-role enlargement (e.g., by scheduled rotation in work positions), workforce reduction and implementation of a new management system. The consultant-led program involved several different components spread out over a three-year period. Leadership training and management group coaching, workshops targeting quality of meetings, alignment and cooperation between units, as well as health and safety training for both managers and employees were key activities.

In all three interventions, the vital role of line managers was acknowledged in the design, and different degrees of support for managers – through training and/or other forms of support (e.g., coaching) – was included as a component.

5.3 STUDY PARTICIPANTS

Although Study I and II use the same intervention as a case, the panel sample is somewhat different. In Study I, a panel sample of 216 white-collar employees representing 73 work units from six different organizations was used. In Study II, the panel sample consisted of 180 employees representing 50 work units from one single organization. The reason for this dissimilarity between the panel samples in the two studies was the use of different intervals, which in different ways restricted the use of participants' data from the total sample. In Study I (including all participating organizations), of the 761 employees agreeing to participate in the research, the panel sample of 216 employees (28 %) completed the follow-up questionnaires within week 16-52. In Study II, of the 541 employees (as only one organization was left in the sample after intervals were introduced) 180 employees (33 %) completed the follow-up questionnaires within the intervals of 2-5 and 10-13 months. In an attrition analysis, neither of the panel samples in Study I or II differed statistically significant from the total sample.

In Study III and IV, the sample consisted of employees working at two different process industry plants. In Study III, employees could choose not to create an ID code or to change their ID code between survey rounds, which limited possibilities for matching the sample over time. Thus, of the 186 employees who responded to the baseline questionnaire, and the 119 employees who completed the six-month follow-up questionnaire, 90 employees (48 % of those answering at baseline) could be matched and they constitute the panel sample of Study III. Comparisons of the panel sample with employees who only responded at baseline showed no statistically significant differences between the two groups. In Study IV, a total of

172 employees consenting to participate in the research provided survey data at baseline and 7 months later – during implementation. This panel sample (25 % of all employees) differed statistically significantly from the total population of the plant (N = 686, at the time of the baseline questionnaire) when comparing with organizational records. The panel sample was slightly older and had been employed at the plant longer.

5.4 INSTRUMENTS

In the four studies both outcomes and leadership were generally measured using short scales and single items from well-validated questionnaires (see Table 2), with the exception of Study III. In Study III, a scale for measuring intervention fit was created. Short scales were used due to the vast amount of information gathered from employees through surveys during the interventions. Because the organizations wanted to keep the time spent on answering to a minimum, using short scales was considered a functional alternative. A recent review has also shown that the use of single items and short scales can be a reliable, valid and useful alternative in organizational research, as using shorter questionnaires has been shown to improve response rates (Fisher, Matthews & Gibbons, 2016; Fuchs & Diamantopoulos, 2009).

A summary of the scales and singe items used in the four studies, with reference to sources, is provided in Table 2. Additionally, the scales used to measure intervention-specific leadership items were adapted to fit the specific context of the organizational interventions. The scale used to measure line managers' change-supportive behaviours – the line manager attitudes and action scale (from IPM; Randall et al., 2009) – was also adapted to fit the specific intervention at hand. More information about the adaptations made to scales, the items used in the shortened versions, the development of the intervention fit scale, and the internal consistency of the scales can be found in the method sections for the respective studies.

In the four studies, transformational leadership is measured as a composite, including items representing the different components. In the IsTL scale used in Study III, questions representing the transactional component of contingent reward are also included. As described in the Background section of the thesis, transformational leadership is conceptualized and operationalized as consisting of different components with accompanying sets of behaviours (i.e., most commonly four, e.g., Bass & Riggio, 2006; but in some cases three, Podsakoff, MacKenzie, Moorman, & Fetter, 1990; and in some cases five or more, e.g., Rafferty & griffin, 2004; Carless, Wearing & Mann, 2000). These components have been shown to be highly interrelated, which in turn has led to arguments that it would be more appropriate to treat them as a single higher-order construct that includes multiple independent behaviours (Bommer et al., 2005; Bycio, Hackett, & Allen, 1995). Also, based on the high interrelatedness and similarity in influence on outcomes, arguments to include contingent reward in the measurement of a global transformational leadership have also been made (e.g., Barling et al., 2002). In practice, transformational leadership is commonly studied using global measure including items representing the different components (Bass & Riggio, 2006), sometimes with contingent reward as an additional component (Barling et al., 2002).

5.5 STATISTICAL ANALYSES

Based on the type of data used in the four studies, somewhat different methods of statistical analysis have been applied. In Study I, the data are analysed using multilevel Poission regression. Poission regression is a method recommended for analysing data that include count variables (i.e., observations that can only take on whole forms and arise from counting rather than ranking, which also means the data are usually non-normally distributed). Additionally, in organizational research, the responses of individuals may be dependent on group belonging (e.g., employees in a work group rating the same manager) and can therefore be treated as clustered (Stroup, 2012). Statistically, generalized linear mixed models (GLMM), which include multilevel Poission regression, have been suggested to be the best way of handling the combination of count variables and clustered data (Aiken, Mistler, Coxe, & West, 2015). Similarly, because one of the variables (i.e., span of control) by it very nature involves clustered data, a multilevel model was also used for the analyses in Study IV.

Study II and III use Structural Equational Modeling (SEM; Bollen, 2005) to analyse the data. Compared to other (multivariate) data analysis methods in which several steps must be taken to analyse a complex model, SEM allows for several estimations in one single analysis, enabling use of several outcomes in the same analysis (Bollen, 2005). In SEM, specified relations can be corrected for biases caused by random error and construct-irrelevant variance; corrections for measurement errors are also made (Tomarken & Waller, 2005). Different kinds of variables (e.g., nominal, categorical, and scale) and combinations of these can be handled in SEM. Also, the use of fit indices allow comparison of a specified model to suggested "rules of thumb" for fits to data (Hu & Bentler, 1999). The flexibility and robustness of SEM have made it an appropriate and useful analytic method for a variety of study designs, for example, for longitudinal, multilevel and intervention studies (Kelloway, 1995).

Critics of SEM have mainly pointed to the fact that there is overreliance among researchers on, for example, the suggested sample sizes for different analyses, fit indexes and indicators per factor in the absence of sufficient empirical support (Marsh, Hau, & Wen, 2004). Similarly, strong conclusions are sometimes made regarding the correctness of models and analysis results, even though other models (not yet tested) might better fit the data. Drawing conclusions as to causal relationships by misinterpreting the method (rather than the study design) as the key to deductive statements has also been an area of critique (Tomarken & Waller, 2005). There is also the risk of researchers making data-driven post hoc modifications to models without a specified exploratory approach or using an independent sample (Kelloway, 1995). Similar risks and critical declarations are associated with the use of GLMM (Stroup, 2012). Thus, although these methods are often recommended, highly adaptable, and thus suitable for analysing data in process evaluations, they cannot compensate for poor study design or the way in which data are interpreted. Neither can the use of sophisticated analytical methods compensate for the lack of theory (Kelloway, 1995; Tomarken & Waller, 2005).

5.6 ETHICAL CONSIDERATIONS

Research in organizations is often based on the assumption that the research can help to make these organizations more efficient, and that this will automatically lead to a better world for everyone who is part of the organizations. Such an assumption is based on the premise that no tension or conflict exists between, for example, facilitating changes to allow organizations to achieve their primary objectives and employee outcomes in terms of health and well-being (Kakabadse, Kakabadse, & Kouzmin, 2002). However, because the participants in the research, usually employees, often have less power than other stakeholders (e.g. management, consultants and researchers), there is always a risk they may feel they are being exploited to benefit another party. Researchers, in turn, may be dependent on the goodwill of organizations to be able to conduct their research at all, and they may sometimes have limited access to employees, making it difficult to control employee conditions and voluntary participation.

Even though organizational research can seldom be considered directly physically harmful to employees, there is always a risk that it will be unbeneficial, stressful or involve social risks for employees (Lindorff, 2007). When employees report on working conditions that may be seen as non-beneficial (e.g., reports on managers who act destructively) to an external party, there may also be an expectation for researchers to act upon the information given. Additionally, there is a risk that employees will feel less respected, for example, when they have provided information without knowing in advance what research themes may develop or how their answers will be interpreted (Lindorff, 2007). From a line managers' perspective – the person whose leadership behaviours are being evaluated – there is a risk of feeling socially exposed and wrongly judged. Given that they may feel an extra burden and be stressed in the context of organizational change initiatives (Neves & Schyns, 2018), the risk of receiving less positive feedback can add to the stress, especially if no plan exists for dealing with such situations.

Given that the interventions studied in the present thesis were driven by the organizations themselves, the survey results also served as feedback to the organizations (directly or through consultants) as part of their evaluation of the interventions (i.e., in addition to being used for research purposes). However, in all of the interventions, completing the surveys was voluntary. All employees also received written information about the research before responding to the surveys. Contact information to research leaders was also provided, so that participants could ask questions and comment on the surveys and the data collection. Not only was completing the surveys voluntary, but also participating in the research. The employees were told they could stop responding to the surveys at any time, and if they did their responses would not be saved.

Consent to participate in the research was given by answering "yes" or "no" when asked whether one's responses could be used for this purpose; answering this question was mandatory, and it was placed either at the beginning or at the end of the survey. Thus, even if employees could potentially experience social pressure to open up the surveys, they could

choose to leave out answers and to not allow their responses to be used in research studies. In the intervention used for Study III, the baseline survey was administered through paper-and-pen hand-outs, and the participants could choose not to answer, what questions to answer, as well as not to hand in the surveys, or not to leave an ID code. In the two studies containing data gathered from other sources (Study 1 and IV), the only data used were those from participants who had agreed to participate in the research and had completed the surveys.

In the interventions used as cases for Study III and IV, improvement in organizational outcomes was a parallel objective to improvement in employee health and well-being outcomes. This may have increased the risk of both the interventions and the research being perceived as involving conflicting interests by giving priority to organizational outcomes, and thus as being unfavourable to participants. Therefore, besides possibilities to contact researchers, the employees were given opportunities to provide anonymous feedback on the intervention and the surveys by answering an open-ended question. In all of the interventions, results were reported back to the organizations, with suggestions for further improvements to employee conditions when called for. The relevance of employee involvement and the importance of following up on any employee reports of less favourable working conditions were stressed.

For line managers receiving feedback on leadership ratings, support was offered and provided by the organizations in collaboration with the consultants and/or researchers.

The intervention projects were all approved by the regional ethical review boards in Stockholm (Study I and II, ref no. 2010/1961-31/5) and Umeå (Study III and IV, ref no. 2013/467-31Ö and 2015/23-31Ö).

6 THE EMPIRICAL STUDIES – KEY FINDINGS

Below a brief summary of the purpose and key findings of each study is given. More information, such as tables describing correlations, regressions, model comparisons, and longitudinal invariance, can be found in the results section of the respective studies.

6.1 STUDY I

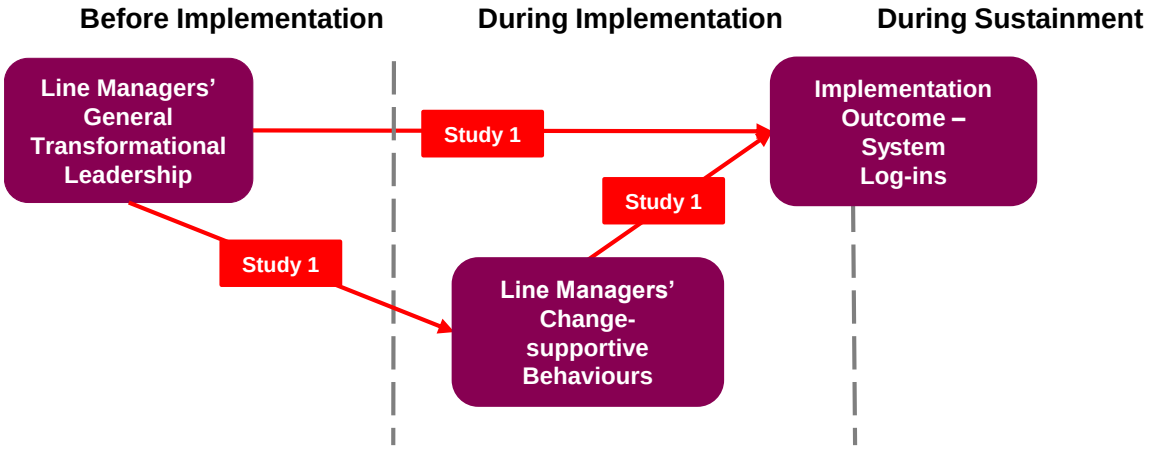

Figure 2. The conceptual model of Study I

Few studies have examined the influence of line managers' behaviours on implementation outcomes. The studies investigating this topic have mainly focused on their change-supportive behaviours. Suggestions to instead, or also, study line managers' transformational leadership have been made (Nielsen, 2013). Additionally, studying the influence of line managers' behaviours on actual employee behaviours (i.e., use of the system) introduced an objective indicator of the intervention being implemented. The aim of the study is to evaluate the association between line managers' transformational leadership/change-supportive behaviours (i.e., operationalized as their attitudes and actions in relation to the intervention) and their use (i.e., frequency of logins) of the system, in both the short and long term.

6.1.1 Findings and conclusions

The results of multi-level Poisson regressions suggest that line managers' change-supportive behaviours were associated with the initial (16-52 weeks after the intervention started) and sustained (53-144 weeks into the intervention) use of the web-based system. Transformational leadership, on the other hand, was not associated (i.e., statistically significantly) with outcomes. However, using linear regression, a statistically significant indirect relationship was found between transformational leadership and outcomes, when mediated by line managers' change-supportive behaviours. The results imply that, to facilitate employee use of the system, it was important for line managers' behaviours to be directed towards implementing the intervention. Line managers' general transformational leadership may play a role in their performance of change-supportive behaviours and, through this relationship, also in employee use of the system.

6.2 STUDY II

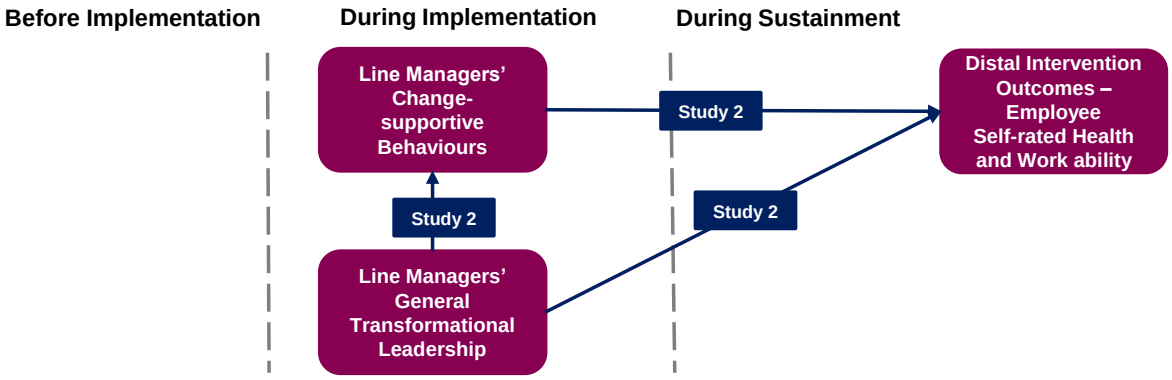

Figure 3. The conceptual model of Study II

Although a relationship between line managers' behaviours and changes in employee behaviours has been detected, few studies have evaluated whether line managers' behaviours are associated with the actual expected outcomes of the intervention (i.e., change in employee health; Nielsen, 2013). In addition to evaluating the association between line managers' change-supportive behaviours, also investigating the association between their transformational leadership during implementation and outcomes may provide additional information on how they can facilitate intervention success (Nielsen, 2013). Thus, the aim of the study is to evaluate the association between line managers' transformational leadership/change-supportive behaviours and change in employee self-rated health and work ability (i.e., expected distal intervention outcomes).

6.2.1 Findings and conclusions

Using SEM to analyse the data, the results of the study (see Figure 4) showed that line managers' change-supportive managerial activities (i.e., attitudes and actions in relation to the intervention) were associated with the expected intervention outcomes. As in Study I, line managers' transformational leadership was not associated directly over time with either of the outcomes. However, an indirect effect was found between these variables, mediated by line managers' change-supportive behaviours. Consequently, line managers' transformational leadership only seems to have a relationship with outcomes through its relationship with change-supportive behaviours. The results imply that the directedness of line managers' behaviours towards implementation of the intervention is important. The results also indicate that transformational leadership may be important to line managers' efforts to support the intervention.

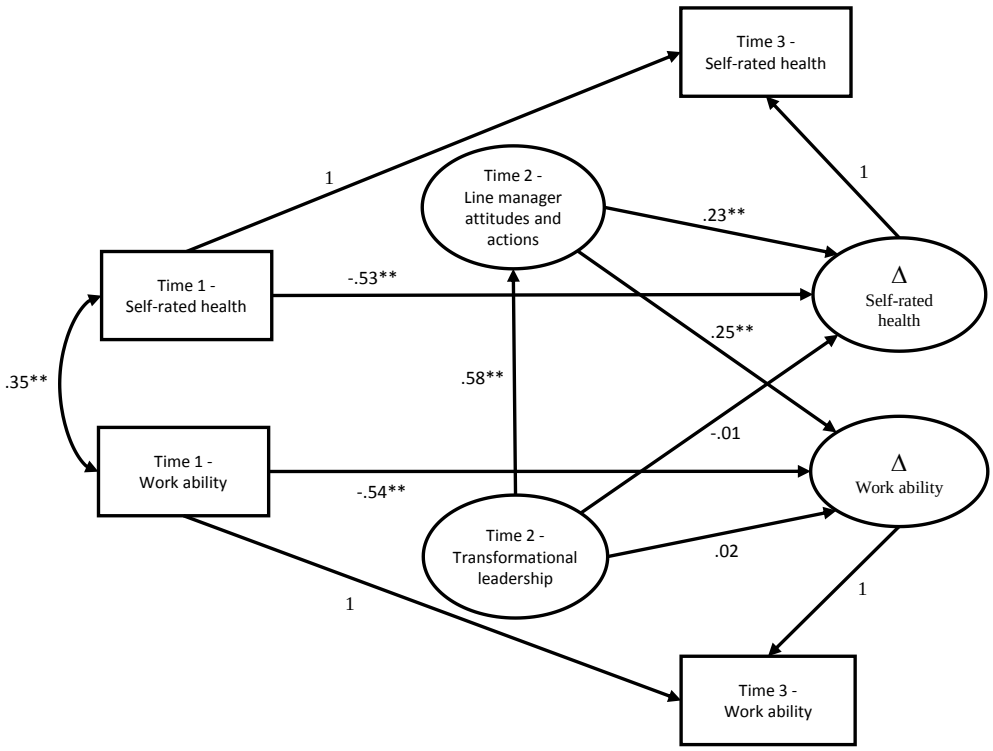

Figure 4. Tested model, including standardized path coefficients. *$p < .05$, **$p < .01$. Observed variables at Time 2 are omitted from the figure for presentation purposes

6.3 STUDY III

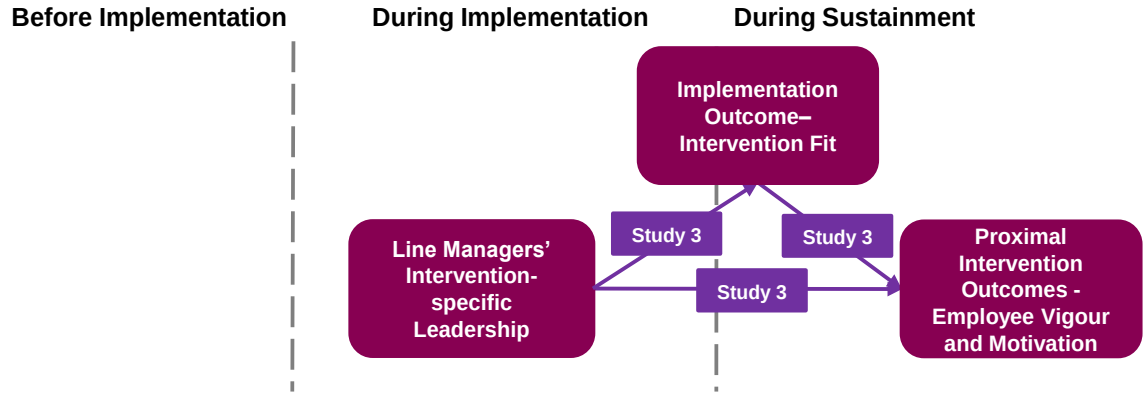

Figure 5. The conceptual model of Study III

Measuring line managers' behaviours in terms of IsTL captures both the directedness of their behaviours towards the cause of implementing an intervention and the relational aspect of how line managers may influence employees for that purpose. A recent qualitative intervention process study suggested that one way in which line managers operate to facilitate implementation is by helping to create conditions for a good fit between the intervention and employee needs as well as the context (Framke & Sørensen, 2015; Nilsen & Randall, 2015). Thus, the aim of this study is to investigate the association between line managers' IsTL and intervention fit, as well as intervention outcomes – both directly and indirectly through intervention fit.

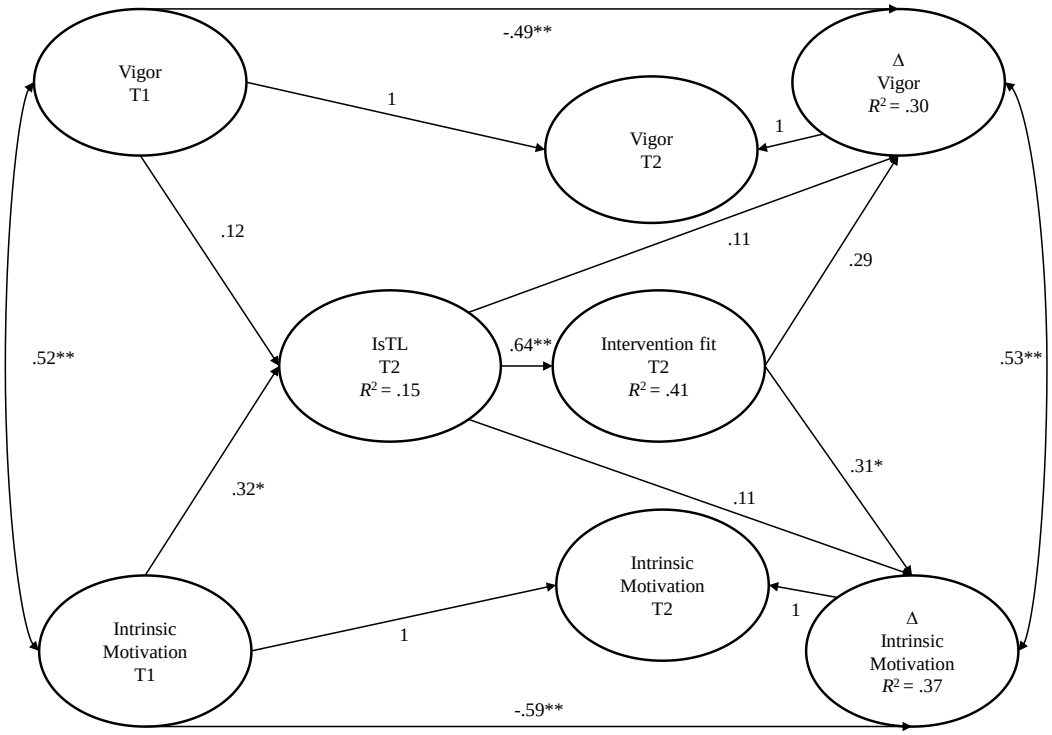

Figure 6. Tested model, including standardized path coefficients and R^2 displayed. *$p < .05$, **$p < .01$. IsTL = intervention-specific transformational leadership

6.3.1 Findings and conclusions

The results of the data analysis using SEM (tested model displayed in Figure 6) indicated that IsTL was associated with change in intrinsic motivation through its relationship with intervention fit. Neither IsTL nor intervention fit was associated (i.e., statistically significantly) with change in vigour. However, IsTL together with intervention fit was associated with change in vigour when combining the strength of both direct and indirect effects (i.e., total effects). The strength of the specific relationships between intervention fit and the proximal intervention outcomes (β = .31, p = .02 for intrinsic motivation, and β = .29, p = .08 for vigour), together with the variance in the outcomes that was explained by the model (R^2 = .37 for change in intrinsic motivation and R^2 = .30 for change in vigour), show that IsTL and intervention fit may be relevant factors to consider during organizational interventions. The results also suggest that intervention fit could be regarded as a mechanism that may help to explain how line managers influenced intervention outcomes.

6.4 STUDY IV

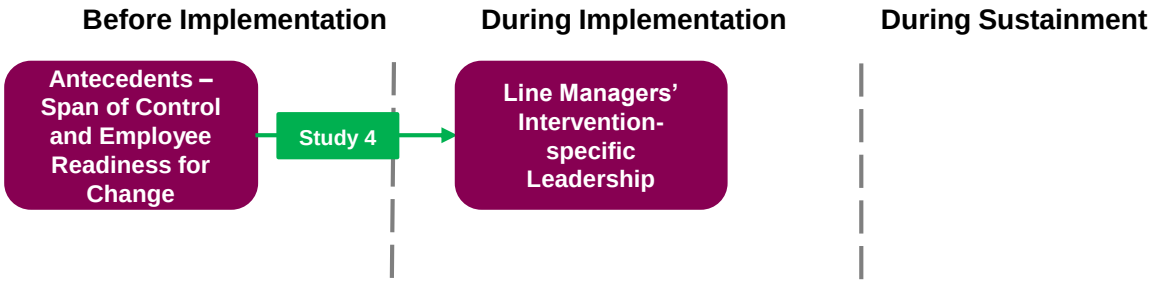

Figure 7. The conceptual model of Study IV

A growing number of studies (including the first three of this thesis) have shown that line managers' behaviours may be important to the success or failure of organizational intervention (Havermans et al., 2016). Less is known, however, about what makes line managers turn in one direction or the other, thus facilitating or hindering implementation of an intervention according to plans (Nielsen, 2017). Therefore, in this study two discrete contextual antecedents – line managers' span of control and employees' readiness for change – are related to line managers' intervention-specific leadership styles. The aim of the study is thus to improve our understanding of whether contextual factors are related to line managers' constructive (i.e., IsTL) and destructive (active and passive) leadership during implementation of an organizational intervention.

6.4.1 Findings and conclusions

The results of multi-level analysis in Mplus (see Figure 8) showed that, on a group (between) level, line managers' span of control was negatively related to perceptions of line managers' constructive leadership and positively related to their passive destructive leadership. However, it was not associated (i.e., statistically significantly) with line managers' active destructive leadership. On an individual (within) level, employees' readiness for change was related to all three leadership styles. The positive relationship with constructive leadership and negative relationship with destructive forms of leadership indicate that employees' readiness for change may play a role in line managers' facilitating or obstructing behaviours during interventions. Increasing our knowledge of how contextual antecedents are related to line managers' intervention-specific leadership may help organizations to secure the resources needed to achieve desired intervention outcomes.

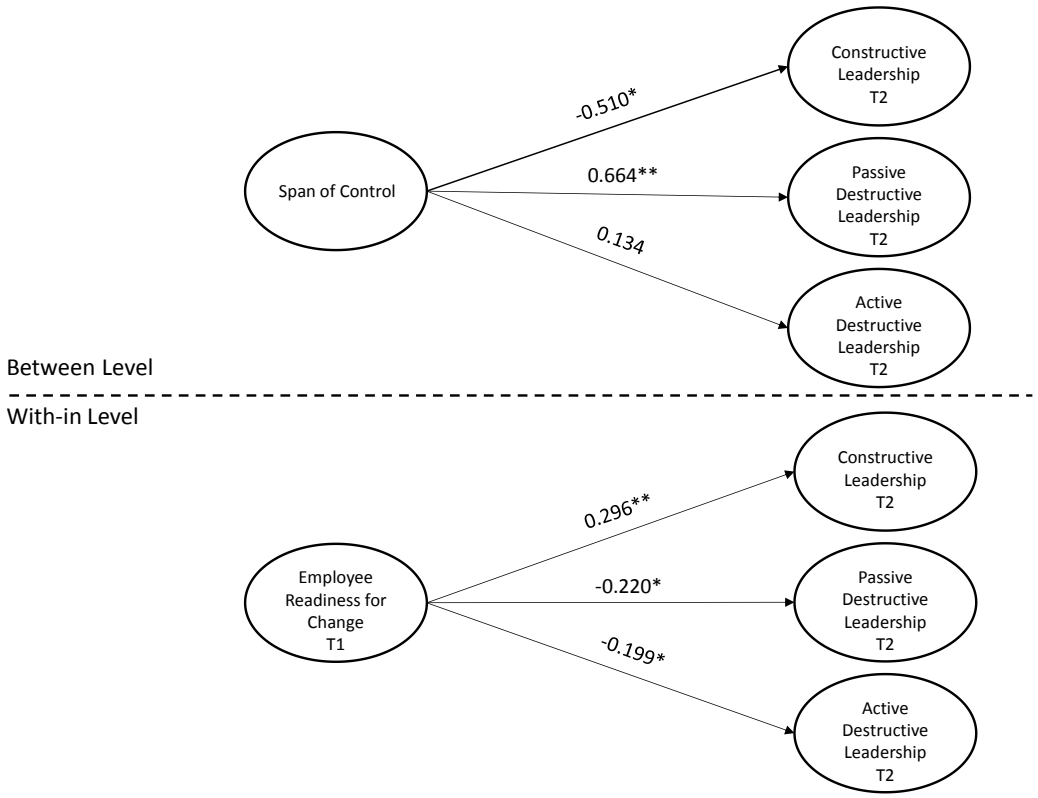

Figure 8. The tested multilevel model with span of control and employee readiness for change as antecedents to leadership behaviours. *$p < .05$; **$p < .01$

7 DISCUSSION

The overall aim of the present thesis was to contribute to our understanding of line managers' behaviours in during implementation of organizational interventions. All of the studies included in the thesis have focused on evaluating line managers' leadership in conjunction with implementation. Three of the studies related variations in line managers' transformational leadership behaviours to implementation and/or intervention outcomes, and one of them related contextual antecedents to line managers' constructive (i.e., transformational) as well as destructive leadership.

The findings from Study I and II indicate that line managers' general transformational leadership is not directly related to organizational intervention outcomes. In contrast, line managers' change-supportive behaviours were associated with implementation outcomes (i.e., employees' initial and sustained use of the web-based system; Study I). In Study II, line managers' change-supportive behaviours were also associated with distal intervention outcomes (i.e., employee self-rated health and work ability). These results thus indicate that line managers' support of an intervention is important to intervention success, which is in line with results from previous studies on the relationship between such behaviours and intervention outcomes (e.g., Nielsen & Randall, 2009). In both Study I and II, an indirect effect was found between line managers' general transformational leadership and all of the outcomes, mediated by line managers' change-supportive behaviours. Thus, the results indicate that general transformational leadership may be important to line managers' active support of the on-going implementation of the intervention. Similar findings have been presented previously in the organizational change research, suggesting that managers' general constructive leadership style is associated with how they manage specific changes (Battilana et al., 2010). Besides confirming previous findings, the results of Study I and II can also be seen as strengthening assumptions concerning the importance of line managers' support during interventions, and as adding new information about how line managers' behaviours may be related to intervention outcomes. Compared to previous studies, Study I and II are stronger in design (i.e., with three measurement points). The two studies also show how general transformational leadership may be related (indirectly) to both implementation and intervention outcomes, and thereby play a role in intervention success. Additionally, the results of the two studies show that line managers' behaviours play a role in the outcomes of web-based interventions, a topic that has only been sparsely studied previously.

The results of Study III showed that intervention-specific transformational leadership (IsTL) was associated with employees' perceptions of intervention fit (as an implementation outcome), which is in line with previous suggestions regarding how line managers can facilitate organizational interventions (Framke & Sørensen, 2015). Intervention fit was in turn associated with change in intrinsic motivation, and an indirect relationship between IsTL and change in intrinsic motivation was found through its relationship with intervention fit. Although somewhat ambiguous results were found given the statistically non-significant direct or indirect relationship between IsTL and vigour, the statistically significant total

effects of IsTL on change in vigour could be seen as indicating that IsTL also played a role in this outcome. By including a measure of IsTL and a measure of intervention fit, the results of Study III expand on previous findings not only by studying whether line managers' behaviours are important, but also by examining how desired changes can be achieved.

Moreover, the results of Study IV showed that line managers' discrete context, in terms of their span of control, and employees' readiness for change were associated with line managers' intervention-specific constructive (i.e., IsTL) and destructive (passive and active) leadership behaviours. The exception was the non-significant relationship between line managers' span of control and active destructive leadership. Thus, the results indicate that contextual antecedents were important to line managers' ability to facilitate employee engagement with the change. They also indicated that adverse contextual conditions may have played a role in line managers' obstruction of the implementation.

7.1 THE IMPORTANCE OF LINE MANAGERS' CHANGE-SUPPORTIVE BEHAVIOURS

In both Study I and Study II, line managers' change-supportive behaviours were associated with outcomes. Similar results have been presented in process evaluations of other interventions (e.g., Nielsen & Randall, 2009; Randall et al., 2009). The results of the two studies (Study I and II) thereby add to and strengthen previous results, suggesting the importance of this type of role-defined behaviour in making organizational interventions successful, across interventions, settings and specific outcomes.

As was argued in the background of the thesis, these kinds of supportive behaviours are closely tied to facilitating implementation of organizational interventions by focusing on the deliverance activities related to a linear change process (e.g., giving information) from a leadership perspective. These behaviours could perhaps be understood as directives, and/or transactional leadership behaviours (Higgs & Rowland, 2015; Bass & Riggio, 2006). In the transformational leadership literature, management is sometimes described in relation to transactional leadership (Bass, 1985), which has also been found to be effective, although generally less so than transformational leadership as regards affecting employee outcomes (Bass & Riggio, 2006).

A conclusion that could be drawn based on the present results is that, contrary to what is argued in the introduction, line managers' change-supportive behaviours are sufficient to make interventions successful. As Higgs and Rowland (2011) point out, what type of leadership behaviours are most effective during organizational change may depend on how the intervention is outlined as well as the content and context of the intervention. Interventions can be initiated and outlined differently, for example with a high degree of participation from the start and throughout all steps of the intervention (Nielsen, Randall, Holten, et al., 2010; Abildgaard et al., 2018). As this was the circumstance in the intervention in focus in Study I, employees may already have felt engaged and willing to participate (i.e., the initial part of the intervention process was in itself transformational), and therefore the

role of line managers may mostly have involved managing the intervention that employees were part of creating. Thus, in these cases, line managers' change-supportive behaviours may have been both adequate and effective for change to be produced. Also, if the content of the change only involves making small changes, without disrupting work procedures or being very time consuming, change-supportive managerial behaviours may be sufficient to make implementation a success (Higgs & Rowland, 2005).

The question of whether line managers' change-supportive behaviours are even more important than transformational leadership in making interventions successful was not addressed in the two studies (Study I and II), but given the results it may be worth discussing. In the studies, measures of general transformational leadership are used, compared to a measure of line managers' change-supportive behaviours, which by their very nature are intervention specific. General transformational leadership had no statistically significant direct relationship with outcomes (i.e., with change-supportive behaviours being part of the same model) in these studies. Because their change-supportive behaviours were related to outcomes, change support may be considered more relevant to evaluate and to train managers in than general transformational leadership. There is previous support for the importance of leadership behaviours directly targeting the domain to be managed (e.g., safety or health) for outcomes within that specific domain (Barling et al., 2002; Gurt et al., 2011). For example, in a leadership training study, the effects of training in general transformational leadership and of safety-specific transformational leadership training were compared (Mullen & Kelloway, 2009). That study found that training in safety-specific transformational leadership had more influence on safety outcomes than did training in general transformational leadership (Mullen & Kelloway, 2009). The measures used to evaluate line managers' behaviours in Study I and II differ with regard to measuring general vs. specific behaviours. One possible alternative interpretation of the results is therefore that it was the directedness of line managers' behaviours (aimed at facilitating implementation of the intervention) in particular that was important to implementation and intervention outcomes.

7.2 THE ROLE OF TRANSFORMATIONAL LEADERSHIP DURING ORGANIZATIONAL INTERVENTIONS

Besides the importance of line managers specifically supporting change activities (e.g., delivering information on the intervention), their ability to facilitate employees' engagement in co-driving the change has been suggested to be important (Nielsen, 2013). As described in the background, one way of exploring this theme in a process evaluation of organizational change initiatives has been by including a theory-based measure of transformational leadership, instead of or in addition to measuring managerial change-supportive behaviours (Battilana et al., 2010). Results from such studies have also shown that adding transformational leadership to the equation can help to explain outcomes beyond that of the managerial behaviours (e.g., Herold et al., 2008).

As concluded above, contrary to hypotheses stated in Study I and II, and to previous findings (Harold et al., 2008), general transformational leadership in conjunction with implementation

of the intervention was not associated with outcomes when line managers' change-supportive behaviours were simultaneously included in the evaluation models. Besides the suggested importance of behaviours being intervention specific, the statistically non-significant relationship between general transformational leadership and outcomes may also depend on differences in the design and objectives of the change initiatives. As has been argued, an organizational intervention may be perceived as an add-on feature to the primary tasks of the organization, not as having originated from within or being integrated into organizational outcomes (Lewis et al., 2012). Organizational change is usually aligned with organizational outcomes, and may therefore not be affected by the same prioritization dilemma that has repeatedly been associated with leading organizational interventions (Saksvik, Nytrø, Dahl-Jørgensen, & Mikkelsen, 2002). Thus, the specificity of line managers' behaviours may be less relevant to consider under circumstances where intervention and organizational objectives are clearly aligned. In other words, when change is perceived as being peripheral to organizational objectives, leading to promote change may more easily be given low priority than when the change is aligned with organizational core functions and objectives. The intervention used as a case for Study I and II, although intended to be integrated into the occupational health management of the organizations, was not explicitly aligned with organizational outcomes. Such an intervention may therefore be more sensitive to line managers' leadership targeting the achievement of intervention objectives, compared with organizational interventions initiated from within the organization or interventions more clearly aligned with primary task objectives. Thus, line managers may well display a high level of transformational leadership, but their behaviours may at the same time be directed towards objectives other than those of the intervention.

As suggested in previous studies (e.g., Battilana et al., 2010), general constructive leadership may also be important to line managers' performance of change-supportive behaviours. From this perspective, line managers who exercise general transformational leadership may be expected to be more skilled in leading organizational interventions (because transformational leadership is change oriented; Bass & Riggio, 2006). Therefore, in Study I and II, it was also hypothesized that line managers' general transformational leadership would have an indirect effect on outcomes, mediated by their change-supportive behaviours. In both Study I and II, this hypothesis was supported by the results.

From a leadership theory perspective, an alternative (or complementary) interpretation of the relationship between transformational leadership and change-supportive behaviours would be that transformational leadership may augment the effects of change-supportive behaviours. In leadership theory, transformational leadership builds on transactional leadership/management and could thus be seen as moderating the effects of transactional behaviours on outcomes (Bass & Riggio, 2006). From this perspective, transformational leadership may enhance the way in which line managers perform change-supportive behaviours, perhaps by adding qualitative aspects, such as not only giving information, but doing so in a way that makes employees feel motivated to work towards achieving the intervention objectives.

7.2.1 Intervention-specific transformational leadership

A way of considering both the directedness of behaviours (towards organizational interventions) and the engagement of employees that may be included in transformational leadership is to evaluate line managers' behaviours in terms of IsTL. This involves including in the evaluation of line managers' intervention-specific behaviours the additional effects on outcomes that transformational leadership is thought to have beyond the effects of transactional leadership (Bass & Riggio, 2006). Measuring intervention-specific leadership could also be seen is as in line with the conclusions drawn by Aarons et al. (2014), who developed a scale for assessing implementation (of EBP) leadership. They argue that their measure is convergent with transformational leadership, but at the same time specific to measuring behaviours related to implementation of EBP. Measuring intervention-specific leadership could also be seen as lying closer to arguments made in the literature concerning how line managers facilitate organizational change through their transformational leadership behaviours. In this literature (e.g., Eisenbach et al., 1999, Nielsen, 2013), line managers' leadership is described as being directed towards the cause of implementing change (and not in general). Similarly, in Higgs and Rowlands (2005, 2011) studies where transformational leadership is derived from empirical studies attempting to identify the characteristics of effective change leadership, behaviours are also described specifically and in relation to the change initiative.

In Study III and IV, a measure of intervention-specific transformational leadership (IsTL) was used by adapting a safety-specific transformational leadership scale (Barling et al., 2002). Being grounded in transformational leadership theory, IsTL considers how line managers' behaviours promote employees' willingness to exert extra efforts during organizational interventions. In the results of Study III, a relatively strong (cross-sectional) relationship between IsTL and intervention fit was found (β = .64, p < .001). The relationship is substantially stronger than previous cross-sectional associations found between line managers' change-supportive behaviour and, for example, working conditions (β = .34, p < .01; Nielsen & Randall, 2009), as well as in comparison with change in self-rated heath and work ability (β = .21 and .23, p < .01; see Study II). Comparing results in this way is of course questionable, as the interventions differed in content, context, design, outcome proximity, etc., and the relationships are dependent on other variables used in the model. However, it could at least be seen as an indication that IsTL can be a valid alternative to measuring line managers' behaviours in terms of change-supportive behaviours.

In Study III, the relationship between IsTL and change in intrinsic motivation and vigour (β = .11, p < .14 for both) was non-significant. Nonetheless, indirectly, when mediated by intervention fit, there was a statistically significant relationship between IsTL and change in intrinsic motivation. Moreover, when combining the strength of indirect and direct effects of IsTL on change vigour, the relationship was statistically significant. Thus, the results of Study III indicate that the associations between IsTL and intervention outcomes are best understood as indirect. These indirect results are in line with conclusions concerning how the effects of

leadership on outcomes are commonly understood (Bass & Riggio, 2006), where direct effects of transformational leadership on distal multi-factory outcomes are often weak (Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009).

7.3 THE LEADERSHIP INFLUENCE PROCESS – "THE HOW"

Evaluating an organizational intervention, Nielsen and Randall (2009) concluded that working conditions mediated the influence of line managers' behaviours on employee well-being outcomes. Beyond Nielsen and Randall's (2009) findings, little is known about the process through which line managers' influence on intervention outcomes may be transmitted. Study I, II and III can therefore be seen as contributing to the literature on how line managers' leadership behaviours may influence distal intervention outcomes (i.e., in terms of positive change in employee health and well-being). In Study I and II, line managers' change-supportive behaviours are shown to mediate the relationship between transformational leadership and outcomes. Additionally, employees' use of the system (in terms of log-ins), employed as an implementation outcome in Study I, can also be seen as a potential employee behavioural mediating mechanism (from a chain-of-effects perspective; von Thiele Schwarz et al., 2016). The chain-of-effects perspective consequently makes the case that such change in employee behaviours will increase the chances of change in employee health and well-being. Similarly, in Study III, an employee-attitude-related mediator (employees' perceptions of intervention fit) was shown to be important to the relationship between IsTL and intermediate intervention outcomes in relation to intrinsic motivation and vigour. In the organizational intervention literature, intervention fit has repeatedly been suggested as an outcome mediator (Nielsen & Randall, 2015; Randall & Nielsen, 2013; von Thiele Schwarz et al., 2016), but not previously tested empirically. Additionally, both employee intrinsic motivation and vigour have been shown to mediate the influence of line managers' leadership on health and performance outcomes (e.g., Kim & Lee, 2011; Salanova, Lorente, Chambel, & Martínez, 2011). This suggests that, from the chain-of-effects perspective, employee intrinsic motivation and vigour can also serve as a transmitter of the effects of line managers' transformational leadership on more distal intervention outcomes.

In conclusion, across the three studies, line managers' transformational leadership were related to both implementation and intermediate, as well as distal, outcomes of organizational interventions. By investigating mediation of transformational leadership on outcomes, and by relating all mediators and outcomes to the suggested chain-of-effects stages in organizational interventions (von Thiele Schwarz et al., 2016), the thesis contributes to the knowledge base concerning how line managers' behaviours may influence distal intervention outcomes.

Although the studies in the thesis can help to explain how leadership influences employee health outcomes, they do not explicitly investigate why transformational leadership may be effective. Theories that can further explain why line managers may be successful in engaging employees in actively implementing change have been suggested (e.g., job-crafting theory, Petrou, Demerouti, & Schaufeli, 2016; LMX theory, Schriesheim et al. 1999, or the social

identity theory of leadership, SITOL, Hogg, 2011). In a review on line managers' importance for intervention outcomes, Nielsen (2013) proposed, for example, that line managers and employees are more likely to jointly engage in crafting change when employees feel they can identify with their line manager, based on shared norms and values. The use of intervention fit (Study III) as a measure in an organizational intervention can perhaps be seen as a way to start exploring why transformational leadership would be effective in promoting intervention outcomes. Framke and Sørensen (2015) suggested that line managers, through their leadership, can facilitate employees' perceptions of intervention fit by adapting planned changes. In this way, line managers can help to align the change with employees' needs and norms, which in turn may make employees more willing to engage in achieving the intervention objectives.

7.4 LINE MANAGERS' INTERVENTION-SPECIFIC DESTRUCTIVE LEADERSHIP DURING ORGANIZATIONAL INTERVENTIONS

As described in the background section, line managers' passive or active obstruction of implementation has been suggested to be an influential factor in the failure of organizational interventions (e.g., Biron & Karanika-Murray, 2014). This suggests, for example, that line managers have prevented intervention activities from taking place (Randall et al., 2005). However, no prospective studies using a quantitative design have investigated this topic, nor has it been studied from the perspective of destructive leadership. Even though destructive intervention-specific leadership is not prospectively tested in relation to outcomes in the thesis, the results of Study IV indicate that employees are able to perceive the presence of destructive intervention-specific leadership behaviours, especially in a passive destructive form. Table 2 in Study IV (p. 36 in the manuscript) shows that passive destructive leadership receives an average score of M = 2.16, SD = 0.95, and that active destructive leadership receives an average score of M = 1.52, SD = 0.76. Given the effects of destructive leadership on organizational change outcomes (for a summary, see Neves & Schyns; 2018), it is perhaps not that farfetched to suggest that the presence of intervention-specific leadership during implementation of organizational interventions can play a role breaking organizational interventions. Additionally, active destructive intervention-specific leadership seems to be less frequent than both IsTL and passive destructive intervention-specific leadership. However, given the potential consequences for employee outcomes, it may still be considered influential (Einarsen et al., 2007).

7.5 CONTEXTUALIZING INTERVENTION-SPECIFIC LEADERSHIP

National culture, organizational culture, as well as the intervention itself (i.e., when and how change is introduced, the demographics of those involved etc.) are all elements of the omnibus context that may set boundaries for line managers' behaviours (Johns, 2006). Thus, the intervention cases in the thesis are set within an omnibus context, in which transformational leadership (or other forms of leadership) may be varyingly performable and/or effective in promoting outcomes (Oc, 2018).

From a country perspective, all of the interventions used as cases in the present thesis were the same (i.e., they occurred in Sweden), where there are likely preferences for a low power differential and shared decision-making between management and employees (Gustavsen, 2011; Hofstede, 2011). In this Nordic setting, employees' participation has been concluded to be of great importance to organizational intervention success (Nielsen, 2013). Line managers' facilitation of participation has therefore also been suggested to be a central aspect of how their behaviours influence implementation (Nielsen, 2013). The way in which transformational leadership is enacted may vary depending on a particular country's culture (Bass & Riggio, 2006). For example, a leader can include employees' opinions, wishes and needs in change plans, or focus on making his/her own decisions about changes, but still with a focus on employee development, in both cases showing individual consideration (Bass & Riggio, 2006). Thus, transformational leadership is thought to be potentially universally effective, although enacted somewhat differently depending on the omnibus context (Den Hartog & Dickson, 2004).

The three interventions studied were outlined differently, with employees being involved early on in the intervention (in planning) used as a case in Study I and II, and mainly during the implementation step in the interventions used as cases in Study III and IV. Thus, given this circumstance, line managers in the two latter studies may have faced additional challenges in terms of employee resistance due to perceptions of low intervention fit (i.e., with context and personal needs for change; Nielsen & Randall, 2015). In these cases, transformational leadership during implementation may have been of extra importance in facilitating employees' perceptions of intervention fit by agreeing on adjustments to the intervention plan, as discussed above in relation to the results of Study III.

The omnibus context affects more discrete contextual factors, which in turn are suggested to play an important role in the unfolding of organizational interventions (Nielsen & Abildgaard, 2013; Johns, 2006). For example, country or organizational culture may create social expectancies concerning to what extent line managers should take employee opinions into consideration during organizational interventions. As the discrete context is more easily captured in organizational studies, most studies on context in relation to leadership have focused on discrete contextual variables (Oc, 2018). In Study IV of the thesis, a social contextual variable (i.e., employees' readiness for change) and a physical variable (i.e., span of control) were both shown to be associated with line managers' intervention-specific leadership. Thus, even though line managers, through their leadership behaviours, can facilitate (or hinder) implementation of organizational interventions, it may be that their ability to do so is at least partly context dependent.

Both the context factors related to leadership in Study IV could be seen as relational, in that they are suggested to affect the interplay between line managers and employees'. Span of control by limiting possibilities for interaction, and employee readiness for change by signalling to line managers whether they can expect support (or the opposite – resistance) in their efforts to create a case for change. These studied discrete contextual variables were not

only shown to be associated with IsTL, but also with destructive (passive and active; except for span of control with active) intervention-specific leadership behaviours. Thus, both employee attitudes and the distance created by large work groups may influence line managers' ability, possibility, and/or willingness to act constructively or destructively during implementation. In other words, line managers making or breaking of organizational interventions may not only be a matter of leadership competence per se, but also dependent on the possibilities and constrictions constituted by the discrete and omnibus context. Although there is a growing number of studies on contextual antecedents to leadership in general (Oc, 2018), we still have limited knowledge of how context influences line managers' leadership during organizational interventions (Nielsen, 2017). However as the results of Study IV indicate, and in line with Nielsen's (2017) suggestion, the context of line managers is important to considered when planning and evaluating interventions. Attending to line managers' context, and thereby identifying the prerequisites needed to lead organizational interventions successfully, can perhaps increase the chances of more making and less breaking of future interventions.

7.6 METHODOLOGICAL CONSIDERATIONS

The following section presents some general methodological considerations, including both strengths and limitations, concerning Study I-IV. More specific considerations can be found in the respective studies.

7.6.1 Study design

As pointed out in the introduction, the few existing quantitative studies examining associations between line managers' behaviours and intervention outcomes have used designs with two measurement points (i.e., pre- and post-intervention measures of employee outcomes, with line managers' behaviours collected together with outcomes). One ambition of the studies in the thesis was therefore to use prospective study designs, in which dependent and independent variables are separated in time, the goal being to reduce common method bias and recall bias (Hassan, 2006; Podsakoff et al., 2003), as well as to strengthen assumptions as to the direction of relationships (Medsker, Williams, & Holahan, 1994). In Study I, II and IV, the respective intervention designs enabled such separation in time, or in cases where they did not different kinds of measures were used (i.e., system data in Study I). In addition, Study II and III used change scores as outcomes (i.e., changes in employee outcome variables between baseline and follow-up), thus focusing on actual individual change during the implementation period. Previous studies have mainly controlled for baseline by regressing follow-up variables on the same baseline variables. There has been a discussion on the appropriateness of using change scores, and historically it has been criticized for imposing untested constraints (Edwards, 2002) and not accounting for measurement errors (e.g., Cronbach & Fury, 1970). When latent change scores are modelled within a SEM framework, however, true score variance is separated from unique variance (i.e., specific and error variance), making this critique less valid (e.g., McArdle & Nesselroade, 1994).

The designs also have their limitations. In Study III, only two rounds of data collection were possible in conjunction with the intervention. Such a design (as mention above) increases the risk of common method bias with self-report measures being used as both dependent and independent variables.

Additionally, in Study II and III mediation models were tested, with mediators collected at the same time point as outcomes (Study III) or at the same time point as other modelled independent variables (i.e., transformational leadership in Study II). Cross-sectional mediation has been criticized because it may generate biased estimates of longitudinal mediation parameters, leading to substantially over- or underestimation of longitudinal effects (Maxwell, Cole, & Mitchell, 2011). However, in Study I the same mediator (i.e., line managers' attitudes and actions) as in Study II was used, but with transformational leadership separated in time. The model may therefore be seen as reasonably justified given that the results are similar (indirect effects of transformational leadership on outcomes were found) to those from Study I. Moreover, similar relationships between variables have been suggested on a theoretical basis during organizational change (Battialana et al., 2010), and the relationship has been tested using employee outcomes (e.g., manager support has previously been found to mediate transformational leadership's influence on employee performance outcomes; Liaw, Chi & Chuang, 2010). In Study III, the use of intervention fit as a mediator of the relationship between leadership and employee outcomes was justified by the findings from Framke and Sørensen's (2015) study, suggesting such a relationship during organizational interventions. Thus, recognizing the risks associated with cross-sectional mediation, the results of Study II, and especially Study III, should be interpreted with caution. Using similar designs, but with measures separated in time, may provide the basis for drawing stronger conclusions in future studies.

Finally, as mentioned in the methods section of the thesis, when different changes can be expected to occur in time, and reach their full effect, is an important aspect to consider when designing evaluations of interventions. Little is known about time aspects related to change in various health and well-being outcomes (Semmer, 2006), and the type of change desired will of course also influence outcomes differently. In the design of the interventions and studies included in the present thesis, more or less well-founded assumptions have been made concerning when it would be appropriate to collect information. These assumptions have been based on results from previous studies, and what is known about the content of the intervention.

7.6.1.1 Data collection procedures

All four studies used quantitative data collected through self-report questionnaires. The main reason for focusing on quantitative measures was to be able to study a larger population and statistically relate line managers' behaviours to outcomes. A quantitative approach makes it difficult to gather more insightful information on employee perceptions of line managers' behaviours. However, the vast majority of previous studies exploring the relationship between line managers' behaviours and outcomes of organizational interventions have taken

a qualitative approach (Nielsen, 2013). The four studies take into account the findings from these qualitative studies, and the hypotheses are in many cases built on qualitative results, for example the tested relationship between line managers' leadership and intervention fit in Study III. The use of self-report data, which captures subjective perceptions rather than an objective reality (Spector, 2006), can be seen as problematic. The risks include misunderstanding questions, relating differently to scale values (a scale value of 3 may be perceived as 5 by another person), and changed understanding of questions (i.e., response-shift bias) over the course of time between a pre- and post-test (Campbell & Fiske, 1959; Howard, 1980). At the same time, the use of self-report (rather than, e.g., observation or interviews) is a highly effective way of collecting data in large populations. Additionally, participants' subjective perceptions of health and well-being, as well as attitudes and behaviours (i.e., when using reliable questionnaires), are thought to provide a relevant source of information (Ahlstrom, Grimby-Ekman, Hagberg, & Dellve, 2010; Bass & Riggio, 2006; Jylhä, 2009).

Besides using several measurement points to reduce common-method bias, it is often suggested that self-report data be complemented by other forms of data (Campbell & Fiske, 1959). In Study I and IV, self-report measures of line managers' behaviours were complemented by collecting outcome data in the form of system log-ins (Study I) and antecedent data from organizational diagram (Study IV). These objective measures could thus be considered to strengthen the study designs by reducing common method bias, and at the same time showing innovative ways of using easily accessible existing data to complement self-reports in quantitative intervention studies.

The choice to mainly use survey data also limits possibilities to draw more in-depth conclusions about how their leadership was perceived to affect employees in the specific interventions studied. Because the surveys include questions about the change, it is also possible that perceptions of line managers' behaviours in support of the change have been affected by employee attitudes towards the change, thus not solely reflecting line managers' actual behaviours. Without observations, or otherwise controlling for employee attitudes, this also limits possibilities to draw far-reaching conclusions based on the results.

7.6.2 Study participants

In the three interventions used as cases in the four studies, all employees were invited to complete the questionnaires. As concluded in the method section, the use of time intervals in Study I and II affected the panel samples in these studies. Additionally, in Study III and IV, the lack of possibilities to control for exact total populations makes exact response rates difficult to control for. The response rates were also affected by the choice not to participate in the research, a choice that could have been an effect of the perceived distance to researchers and possibilities to control how the data were going to be used (although this was specified in the surveys). All in all, the studies' relatively low response rates can be seen as limiting possibilities to draw general conclusions based on the results. However, in a comparison, the panel samples did not differ statistically significantly from the populations

leaving answers at large in Study I, II and III. In Study IV, there were statistically significant differences between the panel sample and the baseline sample, and thus a more obvious risk of selection bias. Relative to the total workforce, the panel sample in Study IV consisted of older men who had worked at the plant for a longer period of time compared to the total workforce at the plant. The risk of questionable internal validity as a result of the low response rates can perhaps be considered in relation to the fact that the interventions studied were inartificial and managed by the organizations themselves, thus contributing to our understanding of organizational interventions as they commonly appear in real working life.

7.6.3 Instruments

As mentioned throughout the thesis, inclusion of theory-based validated measures of leadership has been an ambition. However, not only are there limitations associated with using self-reports to measure behaviours, but also a number of possible weaknesses associated with the scales used to measure leadership and managerial (i.e., change-supportive) behaviours in the four studies included in the thesis. First, the adapted items used from the line managers' attitudes and action scale in IPM can be considered problematic, as they leave some doubt as to whether the same phenomenon is being measured and thus whether the results can be compared to findings form other studies. Although the authors themselves (Randall et al., 2009) suggest that such adaptations could be made to fit the intervention at hand, changing questions can also mean changing the concept of what is being measured and making comparisons to other studies more difficult. On the other hand, in Study I and II, the scale is used as a composite to evaluate the relevance of line managers' managerial behaviours for the implementation and outcomes of a specific intervention. Organizational intervention studies in practice are nearly impossible to replicate because of the shifting setting, content, and unfolding of process. Therefore, it could be argued that adaptations to make questions fit the specific intervention add value, as they enable evaluation of the proposed relevant managerial behaviours for the activities planned in that intervention.

The measure of transformational leadership in Study I and II, consisting of four questions used as a composite, could perhaps also be criticized for the questions' representativeness as regards measuring the entire breadth of the transformational leadership concept. Similarly, in Study IV, four questions are used to measure each of the different leadership styles (except for active destructive leadership, in which eight questions are used to capture two different dimensions of the concept). In Study III, a 10-item composite scale to measure transformational leadership was adapted from the safety leadership literature (Barling et al., 2002). Using two items for each sub-dimension of the 10-item IsTL scale could be seen as more reliable, and therefore, when possible, as a preferable alternative to the 4-item scales used in the other studies of the thesis. On the other hand, the aim of the studies included in the present thesis was to consider the association between leadership behaviours and the contextual antecedents and outcomes of interventions in an overall sense. For such general purposes, the use of short-form composite leadership measures could be considered

appropriate, and it is hardly a new phenomenon in leadership studies (e.g., Skogstad et al., 2014).

The instruments used as outcomes, or antecedents, are, with one exception, scales or single items from validated questionnaires (see Table 2 for references). The choice of instruments to measure the antecedents and outcomes of line managers' leadership was based on the intervention objectives. Naturally, implementation outcomes are more directed at evaluating attitudes and behaviours related to the intervention, whereas intervention outcomes are measured in terms of general well-being and health aspects. As the latter is also used to evaluate health in other circumstances than interventions, these scales have been studied more and more is known about their relevance in reflecting actual conditions. As for implementation outcomes in organizational interventions, few examples and suggestions on how to measure these quantitatively exist (von Thiele Schwarz et al., 2016; Havemans et al., 2016). Therefore, in the studies dealing with implementation outcomes, new instruments were introduced. Log-ins to the system as a measure of use (in Study I) can be seen as a good example of how behaviours can be measured objectively, and suitable in studies otherwise based on self-reports, and such data are easy to collect. On the other hand, as no intervention outcomes were used in the study, the relevance to intervention success can only be based on the assumption of a chain-of-effects logic, and that the content of the intervention was an effective "medication" for improving employee health. As for intervention fit, the 3-item scale was developed by reading through the literature on the subject and creating questions related to the phenomenon. Even though the scale showed appropriate psychometric properties, all of the recommended steps for scale development (e.g., Clark & Watson, 1995) were not followed, due to limited time and resources in the project. Thus conclusions based on the results from this scale should be made with caution.

7.6.4 Statistical analyses

As described in the methods section, the methods used for analysis in the four studies (SEM and multilevel) have several advantages compared to other multivariate methods. One problem with these methods may be the need for relatively large samples (and number of clusters when applying multilevel analysis) in relation to the number of parameters tested in the same model (Maas & Hox, 2005). As all models tested in the thesis had several parameters – and in relation to model complexity had quite limited samples – there is a risk of results being over- or underestimated. However, the models tested presented a good fit of data and the relationships between parameters were generally in the hypothesized directions, although not always statistically significant. In Study IV, the model was saturated (i.e., with no degrees of freedom left) and thus fit criteria could not be applied to analyse the fit of the model, which could be seen as a weakness. Having said this, the use of fit criteria as a rule of thumb for multilevel models has been questioned on the basis of the limited research on the subject (Hox, Moerbeek, & van de Schoot, 2010).

There is a debate as to whether transformation as a result of a transformational (or other forms of constructive) leadership is determined on a large scale (e.g., the organizational or

group level) or mainly on an individual level of analysis (Herold et al., 2008). In the few existing studies on leadership in conjunction with organizational change, some have treated it as a group-level variable (e.g., Harold et al. 2008), and some as an individual-level variable (e.g., Bommer et al., 2005). Additionally, as presented in the introduction, several studies on leadership during organizational change have applied research models that relate leadership on a group level to outcomes on an individual level, or vice versa (e.g., Nohe et al., 2013). The use of data on one level to predict variance on another level could be questionable (Preacher, Zyphur, & Zhang, 2010), and thus in the present studies leadership and outcomes were tested at both levels and compared using incremental fit indices (Study I) when this was possible. When it was not possible – due to small number of clusters and small group sizes with low intra-class correlations (ICCs) – the models were tested only on an individual level (Study II and III). When using data with no individual variance (span of control), the tested model included different outcomes on different levels (Study IV).

7.7 IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

The findings of the present thesis have several implications regarding line managers' leadership in conjunction with implementation of organizational interventions, both for future research and for future practice. Below, some of the major implications that can be mentioned based on results from the four studies will be highlighted. These implications do not claim to cover all of what is important to consider concerning the role and behaviours of line managers. Instead, they may be viewed as part of the puzzle, to which the present thesis adds the aspect of leadership to the study of line managers' role and behaviours during organizational interventions.

7.7.1 Evaluation of leadership during organizational interventions

The results of the four studies in the present thesis indicate that evaluation of line managers' behaviours based on leadership theory can facilitate our understanding of how their behaviours influence organizational intervention outcomes. Thus the present findings go beyond previous findings showing that what line managers do to support the intervention matters (e.g., Nielsen, 2013). By using leadership theory, the mechanisms through which line managers' behaviours facilitate employees' engagement and co-ownership can be better understood. The thesis thereby improves our understanding of this influential process, one through which planned changes during organizational interventions can be facilitated or disqualified. In other words, the results indicate that line managers' IsTL plays a role in implementation of organizational interventions, and that securing their performance of such behaviours may be important in increasing the success rate of future interventions.

Therefore, evaluating line managers' behaviours in terms of an IsTL, in line with the present findings and findings from other managerial domains (e.g., Mullen & Kelloway, 2009; Gurt et al., 2011, Aarons et al., 2014), should be considered in future studies. The results also indicate that it is important to consider mediation of line managers' leadership on intervention (distal) outcomes if we are to better understand how the influencing process works as well as

the ‘true’ importance of their behaviours. The results of Study IV also indicate that studying more than one aspect of their leadership (i.e., also studying destructive leadership) can further help us understand how line managers’ behaviours are associated with outcomes.

7.7.1.1 When and how should we assess leadership during organizational interventions?

In the present thesis, line managers’ leadership is studied as composites in conjunction with implementation of organizational interventions. As the process of organizational interventions involves other steps as well (e.g., initiation, planning, and sustainment; von Thiele Schwarz et al., 2016), it may be that how line managers act during these stages plays an equally, or more, important role than during implementation, for example, whether and how line managers involve employees and/or consider employees’ views in initiation and planning (considering that employee participation can take different forms during these steps). As little is known about line managers’ leadership beyond the step of implementation, evaluating their leadership behaviours recurrently, following the different intervention steps, can provide further information about when in the process line managers’ leadership is important. Also, as suggested in the discussion of the results above, it may be that general transformational leadership plays an important role for outcomes of the initial intervention steps. For example, line managers may be more likely to take an active role in improving employee well-being by facilitating design and implementation of interventions if they follow-up on employees in their everyday work (Lewis et al., 2012). Line managers’ general transformational leadership may be thus important in detecting the need for interventions, and in prioritizing conducting organizational interventions. One implication for future research would therefore be to study line managers’ leadership in all steps of organizational interventions, not just in conjunction with implementation.

Another expansion of the studies in the present thesis would be to consider whether different aspects of transformational leadership are more important than others during the steps of an organizational intervention process. As different activities are in focus at different steps (i.e., communication, mobilizing others, evaluating and sustain changes; e.g., Battilana et al.; 2010), this may also affect which kinds of leadership behaviours are important. For example, initially line managers’ ability to communicate an attractive vision for what the intervention will bring about and to align the intervention objectives with organizational objectives may be relatively more important. In other words, the transformational leadership component of inspirational motivation may be needed initially to attract or ‘pull’ employees towards putting effort into the change. During actual implementation, the components of idealized influence and intellectual stimulation may play an extra important role as common problem solving, making adaptions to create a fit, and line managers’ willingness to exert their own effort in line with the change may be considered important from a change process perspective. Finally, when sustaining changes, the component of individual consideration may be of relative importance as continuous follow-up, and fine tuning of changes in relation to individuals and continuous contextual influences (e.g., new changes), is important to the survival of the change (e.g., von Thiele Schwarz et al., 2016).

Another aspect to consider in future studies would be to more explicitly include the participative perspective of line managers' behaviours in evaluations. Line managers' participative, rather than directive, behaviours have been a central aspect of descriptions of how line managers bring about change (Nielsen, 2013; Biron & Karanika-Murray, 2014). Transformational leadership, as well as other forms of leadership behaviours (e.g., transactional behaviours), can be varyingly participatory (Bass & Riggio, 2006), and thus this aspect is likely to vary somewhat across line managers who perform transformational leadership. To illustrate, communicating a more directive form of transformational leadership may be expressed using terms such as "*I will provide…*" or "*you need…*", whereas a participatory form may be expressed using terms such as "*can we…*" or "*let´s work together to…*" (p. 12, Bass & Riggio, 2006). The participative perspective is not directly captured in the measures used to evaluate line managers' behaviours in the present thesis, rather it is implicitly concluded that country context will determine the use of a more directive or participatory approach. Thus, there are perhaps additional effects of transformational leadership on intervention outcomes that are not captured by Study I, II and III, which could in the future be captured by measuring transformational leadership using participatory wording in the items. Alternatively, both directive and participatory transformational behaviours could be measured to determine whether different forms are more or less important given the context and outlining of the change (as suggested by Higgs & Rowland, 2011).

7.7.1.2 Evaluation of intervention-specific destructive leadership

Using a leadership approach to the studies of line managers' behaviours, the findings from Study IV suggest that line managers breaking organizational interventions could be understood in terms of destructive leadership (both passive and active). Recent findings on the role of destructive leadership for breaking organizational change in general (Neves & Schyns, 2018) lend support to this suggestion. Results from these findings indicate that destructive leadership may be even more relevant to study given the context of change, as the change itself may put extra strain on line managers and the relationship between them and employees. Therefore including measures of destructive leadership, and relating such leadership behaviours to intervention outcomes, could clarify the role of these behaviours in preventing organizational interventions from achieving their intended effects.

Additionally, in future investigations, the specific mechanisms associated with destructive leadership during the intervention process can provide additional clues as to how such behaviours might influence outcomes. These possible mechanisms could be explored, for example, by researching how the stress among line managers that may arise due to introduction of an intervention may be associated with their display of destructive leadership behaviours, and by studying how destructive leadership affects employee stress during the intervention. Otto, Thomson, and Rigotti (2018) have shown that destructive leadership in conjunction with organizational change can lower employee resources to deal with change activities, which suggests that similar mechanism may be at play during organizational

interventions. By studying both transformational and destructive leadership, the effects of an inconsistent leadership style (i.e., both styles exhibited by the same leader; Mullen, Kelloway, & Teed, 2011) could also provide information on the possible importance of leaders acting in a consistent manner over time.

7.7.1.3 Mediation and moderation

In the present thesis, line managers' leadership is suggested, and partly shown, to have an indirect relationship with intervention outcomes. Still, there is little knowledge about the mechanism through which line managers' leadership may influence intervention outcomes. One obvious such mechanism to study, given suggestions in the intervention literature (e.g., Nielsen & Abildgaard, 2013), would be employee participation as a mediator of line managers' association with outcomes. Also, the change-related concepts of employee readiness for change (Armenakis et al., 1993) and cynicism about change (Bommer et al., 2005) remain to be investigated as mediators of the effect of line managers' leadership on outcomes of organizational interventions. In the leadership, and organizational change literature, climate is an often-used mediator or outcome of leadership (e.g., Aarons et al., 2012). Studying the association between leadership and intervention climate could also be a future contribution to our understanding of how line managers' leadership is related to change during organizational interventions.

The relationship between line managers' leadership and outcomes may also be moderated by different contextual and employee variables. For example, employee stress or sensitivity and preference for a specific leadership style may increase or decrease the strength of this relationship. Future studies looking at these issues would also facilitate our understanding of the circumstances under which line managers' leadership is more likely to influence outcomes. Thus, looking at both known mediators and moderators in the leadership and organizational change literature could be one alternative; another could be to further draw on the change logic and study a chain of effects using implementation outcomes as mediators.

7.7.2 Building leader capacity through training

In the interventions used as cases in the present thesis, the importance of training and supporting line managers in leading implementation was acknowledged through different training and supporting activities, but these activities were not evaluated. Higgs and Rowland (2005; 2011) suggest that building up line managers' ability to lead change is a particularly important component for the success of complex organizational change (e.g., organizational interventions). Such training, based on the present findings, could also include how to handle the intervention steps, in terms of creating possibilities for participation that involve employees in the planning at early stages. It could also include how to deal constructively with potential stressful change situations (e.g., employee resistance) to reduce the likelihood of line managers acting destructively in response.

In fact, developing such abilities has been suggested to be an effective organizational intervention in itself for improving employee health and well-being (Kelloway & Barling,

2010). Training line managers has been also been pointed out as an effective pre-intervention activity that may facilitate the intervention process (Nielsen & Daniels, 2012). Beyond the study by Nielsen and Daniels (2012), research on the effects of such training in connection with an organizational intervention is sparse. However, initiatives to train line managers in domain-specific transformational leadership have recently been taken in other organizational change domains (e.g., implementation of EBP; Richter et al., 2016). Training line managers in IsTL, and evaluating the effects of such training, could also further contribute to our understanding of the importance of line managers' leadership for organizational intervention outcomes.

Besides developing abilities through leadership training, providing line managers with support throughout the intervention process could also be a way of helping them lead interventions. Considering the sustainment of interventions, integrating this support into and aligning it with the natural procedures and processes of the organization (instead of on the side) could also be helpful. This could involve, for example, integration of follow-up and support into their already occurring dialogs with senior management. This may in turn imply that the behaviours of senior management, the HR department and other relevant organizational functions should also be aligned in support of line managers – to avoid a situation in which the system works against them.

7.7.3 Contextual perspectives on leadership during organizational interventions

The omnibus context – concerning where, when, and by whom an organizational intervention is introduced, as well as more discrete contextual variables such as tasks (e.g., job characteristics), social (e.g., employee attitudes), physical (e.g. span of control), and temporal (e.g., time pressure) aspects – creates boundaries for possible leadership behaviours (Oc, 2018; Nielsen & Randall, 2013). The results of Study IV also indicate that context may be important for understanding why line managers make or break interventions. However, more studies are needed to gain further knowledge on how different contextual antecedents influence line managers' behaviours and the intervention process at large. Such studies have also been called for (Oc, 2018; Nielsen, 2017). In models on contextual antecedents to leadership, these suggested antecedents are often considered to also moderate the influence of leadership on outcomes (e.g., Oc, 2018). As mentioned above, one way to advance our understanding of antecedents to leadership during organizational interventions could be to draw upon these models to explore how context influences behaviours as well as enhances or limits the effects of behaviours. The importance of context for line managers' leadership could also provide some clues as to how destructive leadership during implementation can be prevented, thereby indirectly increasing the chances of intervention success.

7.7.3.1 Creating conditions to facilitate line managers' making of organizational interventions

From a more practical perspective, the results of the present thesis also suggest that when conducting an organizational intervention considering the context of line managers

beforehand may be important. This could be done by creating conditions for them to engage with employees in a way that fits the outline of the intervention, and the needs of employees. Such an assessment would ideally be conducted as a pre-intervention activity. Based on assessment results, it may be important to either create or correct conditions to improve line managers' ability to enact constructive, rather than destructive, leadership behaviours – or to make adjustments to the intervention, or find alternatives to an intervention, if the possibilities of successfully creating such conditions are small. Given the focus on the importance of line managers' behaviours for intervention outcomes, not assessing context may result in unjustly blaming them for intervention failure when in fact they did not have the prerequisites for leading change successfully. Additionally, unsuccessfully implemented organizational interventions are likely to affect line managers' and employees' readiness to engage in future attempts (e.g., Ipsen et al., 2015), and possibly their relationship in general if the result is destructive leadership behaviours. It could even be argued that avoiding implementing intervention activities may be the right thing for line managers to do if the chances for success are low given the conditions. Taking a chance by not assessing conditions may thus not only affect the outcomes of the intervention at hand, but also have cascading effects with a negative impact on the organizational system at large.

7.7.4 The relative importance of leadership during organizational interventions

The focus of the present thesis is on line managers' leadership. This focus is perhaps not surprising, based on conclusions concerning their important role in leading organizational intervention (Lamontagne et al., 2007; Nielsen, 2017), and previous findings comparing the strength of the relationship to outcomes with other variables (Randall et al., 2009). However, several other variables have been studied and found to be important to organizational intervention outcomes (e.g., employee attitudes and behaviours; Havermans et al., 2016). The results of the studies in the present thesis also clearly indicate that line managers' leadership is not the only variable that can explain variations in outcomes. Rather, their leadership behaviours are part of a complex network of interacting variables that have the potential to influence outcomes.

Thus far, such interactive reciprocal relationships between intervention variables (e.g., leadership and intervention fit in Study III, or leadership and employee readiness for change in Study IV) have not been investigated in conjunction with organizational interventions. Therefore, studying how different process variables interact over time with each other and with outcomes could generate further knowledge concerning their relative importance for outcomes, and for each other over the course of the intervention process. In turn, this may help organizations in their efforts to implement interventions successfully by focusing energy on the right aspects over time. Such studies could also enable firmer conclusions to be drawn concerning causality in the relationships between variables, by using designs with repeated measurement points on several variables (i.e., designs suitable for cross-lagged panel modelling; Hamaker, Kuiper, & Grasman, 2015).

8 CONCLUSIONS

The results of the studies in the present thesis support previous findings on the relevance of line managers' behaviours to organizational intervention outcomes. By using stronger research designs (e.g., using three measurement points), the results allow firmer conclusions to be drawn concerning the association between line managers' behaviours and implementation and intervention outcomes compared to previously conducted studies in the field. By adding intervention cases (i.e., with different content and settings) in which line managers' behaviours are found to be associated with outcomes, the results of the thesis also add to the generalizability of the finding of line managers' behaviours importance for implementation and intervention outcomes.

Basing the current evaluations of line managers' behaviours on established leadership theory, the studies also provides a framework for understanding how line managers may encourage employees to become engaged in intervention activities. The thesis also highlights the importance of line managers' leadership behaviours being directed specifically towards implementing the intervention. Accordingly, the results suggest that generally effective change leadership is not enough for achieving intervention objectives. Instead, line managers need to prioritize getting employees engaged in the objectives of the intervention (i.e., be intervention specific). Furthermore, the results indicate that the association between line managers' leadership and intervention outcomes (i.e., positive change in employee health and well-being) is mediated by more proximal outcomes (e.g., employees' attitudes and behaviours), which can help to explain how the influence of leadership on employee change during interventions is produced. From both a theoretical and methodological perspective, the thesis also introduces new context and process variables that have not been quantitatively studied in relation to line managers' behaviours during organizational interventions. Two of these measures are from sources other than self-report questionnaires: line managers' span of control and employee log-ins to a web-based system. Thus, the study designs in the thesis can be considered advancements in that they show how evaluations of organizational interventions can take advantage of already existing organizational data.

The thesis also addresses why line managers may make or break organizational interventions by examining the association between the contextual elements and their intervention-specific destructive and constructive leadership behaviours. Two contextual antecedents that have not previously been linked to line managers' behaviours during organizational interventions were studied, and both were shown to influence employees' perceptions of line managers' intervention-specific leadership. Generating knowledge about the contextual antecedents to intervention-specific leadership behaviours can help to explain why line managers make or break interventions. In the future, this knowledge can be used by organizations to secure the resources needed for line managers to lead interventions effectively, thereby ultimately improving the success rate of organizational interventions. Training and supporting line managers in exercising transformational intervention-specific leadership may also increase the chances of organizational intervention success.

9 SVENSK SAMMANFATTNING

Introduktion: Den arbetsrelaterade stress som orsakas av arbetsförhållanden utgör en allt större andel av sjukskrivningstalen i Sverige, och i resten av världen. Utöver kostnader i lidande så utgör problematiken en belastning för sjukvården, sjukförsäkringssystemet och de organisationer i vilka drabbade personer är verksamma. Interventioner på organisationsnivå, det vill säga förändringar i hur arbetet organiseras eller utförs, har rekommenderats som ett effektivt sätt att minska orsakerna till stress, och därigenom förbättra medarbetares hälsa och välmående. Tyvärr har dock interventioner på organisationsnivå sällan visat sig leda fram till de förbättringar som avsetts, trots att de planerade förändringarna ofta utgår från goda kunskaper om vad som skapar gynnsamma arbetsförhållanden. Sättet på vilket interventionerna implementeras, snarare än deras innehåll, har därför konstaterats vara en orsak till den låga graden av framgång.

Första linjens chefer har utifrån sin roll och position ofta ansvaret för att se till att interventionsplaner omsätts till konkret handling bland medarbetare. Deras ageranden i relation till att implementera en intervention har följaktligen ansetts som avgörande för resultatet. Visst empiriskt stöd för att så är fallet går också att finna i de få studier som relaterar första linjens chefers beteenden till interventioners utfall. Utifrån dessa resultat har det föreslagits att första linjens chefers utövande av ett effektivt ledarskap i relation till medarbetarna också skulle kunna bidra till att förklara skillnader mellan interventioners framgång och misslyckande. Det har även föreslagits att den omgivande organisatoriska kontexten kan påverka deras möjlighet till att utöva ett effektivt ledarskap vid interventioner på organisationsnivå.

Syfte: Avhandlingens övergripande syfte var att undersöka sambandet mellan första linjens chefers transformerande ledarskap och olika typer av medarbetarutfall vid genomförande av interventioner på organisationsnivå. Syftet var också att undersöka sambandet mellan kontextuella faktorer och första linjens chefers transformerande och destruktiva ledarskap vid implementering av en intervention på organisationsnivå.

Metod: I avhandlingens fyra studier utvärderades första linjens chefers ledarskap vid tre olika interventioner med hjälp av kvantitativa metoder. I Studie I och II undersöktes relationen mellan första linjens chefers transformerande ledarskap, deras interventionsstödjande beteenden och implementeringsutfall (medarbetarnas inloggningar till ett webbaserat system; Studie I), samt interventionsutfall (självskattad hälsa och arbetsförmåga; Studie II). En internetbaserad hälsofrämjande intervention på både individ- och organisationsnivå i en svensk tjänstemannaorganisation utgjorde den undersökta interventionen i dessa två studier. I Studie III undersöktes huruvida ett interventions-specifikt transformerande ledarskap var relaterat till medarbetares upplevelse av interventionens passform samt tidiga interventionsutfall (medarbetarnas arbetsrelaterade inre motivation och energi). I Studie IV undersöktes relationen mellan två kontextuella faktorer (kontrollspann och medarbetares beredskap till förändring) och första linjens chefers ledarskapsstil i termer av interventionsspecifika konstruktiva (transformerande) och destruktiva ledarskapsbeteenden. Studie III och IV utgick från två olika interventioner på organisationsnivå som genomfördes i svensk processindustri.

Resultat: Resultaten visar sammantaget att första linjens chefers transformerande ledarskap hade ett direkt eller indirekt samband med olika utfall av de studerade interventionerna. Ett samband fanns också mellan de undersökta kontextuella faktorerna och första linjens chefers transformerande och destruktiva ledarskap.

I Studie I och II framkom att första linjens chefers interventionsstödjande beteenden var relaterat till medarbetares inloggningar till det webbaserade systemet (Studie I), samt förändring över tid i medarbetarnas självskattade hälsa och arbetsförmåga (Studie II). Chefernas transformerande ledarskap var i båda studierna relaterade till deras interventionsstödjande beteenden, och därigenom till medarbetarutfallen. Studie III visade att ett interventionsspecifikt transformerande ledarskap var direkt relaterat till medarbetarnas upplevelse av interventionens passform och därigenom indirekt till medarbetarnas förändring i arbetsrelaterad inre motivation. Den sammantagna effekten av den direkta och indirekta relationen mellan interventionsspecifikt transformerande ledarskap och förändring i medarbetarnas energi var också statistiskt signifikant. Studie IV visade att första linjens chefers kontrollspann och medarbetarnas beredskap för förändringen var relaterat till medarbetarnas upplevelse av chefens interventionsspecifika transformerande-, samt destruktivt ledarskap.

Slutsats: De sammantagna resultaten kompletterar tidigare resultat vad gäller betydelsen av första linjens chefers ageranden vid implementering för resultatet av interventioner på organisationsnivå. Utöver det tyder resultaten på att ledarskapsteori (transformerande ledarskap) kan bidra till förklara hur första linjens chefer kan möjliggöra positiva utfall av interventioner. Av resultaten framgår dock att det är viktigt att dessa beteenden riktas mot att understödja medarbetarna i arbetet med själva interventionen. Det vill säga att dessa är interventionsspecifika, eftersom ett generellt gott ledarskap inte tycks tillräckligt för att uppnå önskvärda förändringar. Resultaten visar också på att den organisatoriska kontexten inverkar på första linjens chefers möjligheter till att agera konstruktivt vid implementering av interventioner på organisationsnivå. Kontextfaktorer kan i vissa fall även öka sannolikheten för interventionsspecifika destruktiva ledarbeteenden.

I framtida interventioner på organisationsnivå bör första linjens chefers förutsättningar undersökas, och vid behov åtgärdas, så att de bereds möjlighet att agera konstruktivt gentemot medarbetarna vid implementering. Dessutom kan utbildning och utvärdering av första linjens chefers interventionsspecifika ledarskap bidra till ökad kunskap om hur de bör agera för att interventioner ska bli mer framgångsrika. Utvärdering av ledarskapsbeteenden kontinuerligt vid implementering av interventioner kan även bidra till ökad klarhet i huruvida genomförandet sker som tänkt, och om inte möjliggöra för åtgärder innan det är för sent. Det kan även bidra till att i efterhand förklara om det var implementeringen eller interventionsinnehållet som bidrog till att interventionen blev framgångsrik eller misslyckades.

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